

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

No. 384. (No. 18, Vol. VIII.)

MAY 4, 1916.

[Weekly, Price 1d.
Post Free, 1½d.]

Flight.

Editorial Office: 44, ST. MARTIN'S LANE, LONDON, W.C.

Telegrams: Truditur, Westrand, London. Telephone: Gerrard 1828.

Annual Subscription Rates, Post Free.

United Kingdom ... 6s. 6d. Abroad ... 11s. 6d.

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TO OUR READERS.

The Supply of "FLIGHT." Important Notice.

Order "FLIGHT" to be either delivered or reserved for you regularly.

As the demand for "FLIGHT" is so great each week, it is of the utmost importance that readers should place their orders *firmly* for copies of "FLIGHT" at the bookstalls, their newsagents, or direct from the publishers, at 44, St. Martin's Lane, W.C., if they wish to secure a copy every week and avoid disappointment. The stringent Government restrictions in regard to the supply of printing paper necessitates this precaution in order that only actual numbers required are printed, and all wastage by unsold copies may thereby be reduced to a minimum, if not eliminated.

THE PUBLISHERS.

EDITORIAL COMMENT.



AN ounce of fact is worth a ton of theory in stirring war times like these. Last week the country had a good many tons of fact thrust upon them in the object-lesson of the raid upon Yarmouth and Lowestoft by the German battle-cruiser squadron. Such a "cut-and-run" expedition, with the British Navy intact, should have been a highly hazardous adventure had this country possessed a fleet of airships, even of much less modest proportions than the Germans' present dominating dirigible units. With a really strong airship organisation

the raid would have been an impossibility. It was only rendered a fairly safe proposition by means of the quadrupled range of vision which the German Zeppelins were able to afford to the commanders of the enemy battleships. Probably no better manifestation could have been made of the disadvantage in which our own Navy is placed by the lack of large aircraft than this early morning episode. Here were the German ships travelling at full speed towards our shores, on piratical mischief bent, ready at any moment to turn round and hasten to cover their own tracks, upon notification from their air scouts of the sighting or proximity of any battle units of the British Navy, with a good two hours' start ahead of any chance of being overtaken before they could reach the haven of safety of their minefields. Could any handicap be greater than such a state of things? It is difficult for the general public to realise what this means, as to the majority the policing of the North Sea is visioned more in the nature of countless fighting vessels patrolling an area quite 40 or 50 miles square. The immensity of the area to be guarded is not grasped, or that there must be hundreds of square miles of sea which at times must necessarily be entirely free of any sign of battleship squadrons. It requires very little imagination, however, to appreciate that under such conditions a fleet which can, by means of its airship scouting eyes, see and report all that is going on over a distance in every direction of anything up to about 100 miles must be top dog. And to accomplish this it is but necessary for the airship to be a little over a mile up in the air. What earthly chance do our big battleships have under such conditions of forcing a fair fight upon these marauding sea-pirates? as upon the first sign of our seadogs the alarm is conveyed to the German commander, and it is but a waste of effort for our admirals to endeavour to follow the fleeing foe with such a mileage

start against them. In fact, except by chance, there is no reason why our silent watchers should ever know that an attempt has even been made for another rush-raid against English seaside resorts. What a difference would there have been had we possessed even a minor fleet of lighter-than-air scouting ships! Not only could our admirals have got even with the German tactics, but the chances are the tables would have been turned, as by utilising the knowledge obtained through our eyes of the air, in all probability some cutting-out movements could have been followed so as to bring the would-be raiders to a trial of strength in the only legitimate way in which every Briton has been brought up to regard as honourable fighting. A glance at the diagram produced in "FLIGHT" on April 13th, p. 319, will help readers to appreciate diagrammatically the powers of vision which various heights above the earth's surface give, it there being quite clearly indicated, even upon this reduced scale, where the earth's surface sinks away to a lower level than the direct line of sight affords from any given height. And it must be remembered that the altitude record is at present somewhere round about seven miles.

By way of a little comfort, it is a source of congratulation that our aeroplane defences were upon the occasion of this early morning visit on the alert and took part in the general attempt to punish the visitors, by bombing the German ships and attacking the enemy planes which participated in the action. Then what an exhibition of German valour the finish of the raid proved to be! With their squadron of the most powerful battle-cruisers Germany possesses, supported by all the attendant lesser craft, these mighty vessels turned tail and fled, at forced draught speed, upon the appearance of a few British light cruisers. It gives one to think furiously what would have happened had the positions been reversed. Had the German command had an iota of pluck and enterprise—plus, of course, the requisite skill—all our smaller craft should have easily been blown out of the sea in a very short time. But they have tasted too much of our methods of fighting and taking chances, and so with their Zeppelin convoys they fled precipitately back to their lair, to tell once again wonderful tales of demolished forts, docks, munition factories, and other bric-à-brac of a like character. With what pleasure we shall look forward to the time—not far distant, we hope—when the handicap will be brought more into line for a fair fight. As it is, were it not for the few casualties amongst our citizens, these sort of tactics, like the Sir George Casement Irish fiasco, are more redolent of comic opera than anything else. The business, however, makes one hope that the campaign for the broadening of the control of the air problem

for this country, as being prosecuted at the moment, especially by Lord Montagu of Beaulieu, may bear speedy fruit, so that our efforts to create a supreme air fleet may be even still further fostered than at present. There is no room for jealousy between either of the Services. Each has enough to do to bring to perfection its own organisation. Both would be benefited in their respective spheres by a more generous scheme of organisation, whilst the larger problems of air tactics could under a live Air Minister be given full scope. To this end we repeat our welcome to the help which the Navy League should give to the movement, as the fact alone of the League joining hands in support of the creation of an Air Ministry, should give silence to any suggestion that such an appointment would be contrary to the interests of the Navy. The speech of Lord Montagu in the Queen's Hall last Friday, at the meeting held under the League's auspices, was a manly statement of the objects to be served by an Imperial air policy, and it is to be hoped that the Government will take heed to the voice of the people for the expansion of the Air Service so strongly expressed at this gathering, as also at the huge concourse of supporters which made up the audience at the Albert Hall on Saturday when Mr. Pemberton Billing, in perhaps rather stronger terms, once again gave utterance to his views and his scheme for the carrying of them out. In Lord Montagu's speech, one or two points were emphasised which are perhaps subservient to his scheme in a broad sense, but which are of vital importance when the details come to be worked out. It is well these should be provided for, so that the success of any change is not jeopardised at the outset.

Dopes. About a month back we had occasion to draw attention to the dope question, which had become acute for reasons which we then pointed out. We are glad, therefore, to learn that the difficulties which had arisen have now been in a large measure remedied. In fact, under the new regulations regarding the use of dopes on Government machines, subject to certain limitations and formalities, almost any form of efficient dope can now be employed. The older articles, with their poisonous qualities, can still be used, but no doubt this will be but a temporary measure, regulated by the supply and demand, as the non-poisonous brands will almost certainly receive preference with most makers, as there is now no obligation to dope with any particular make, Government or otherwise. We offer our congratulations upon this speedy and satisfactory solution of what promised to have unpleasant consequences.

Roll of Honour.

THE Secretary of the Admiralty announces the following casualties:—

Under date April 28th: **Killed.**

Flight Sub Lieutenant Dennis G. Broad, R.N.

Flight Sub-Lieutenant Andrew J. Boddy, R.N.

Under date April 30th: **Accidentally Killed.**

Probationary Flight Sub-Lieutenant Thomas R. Liddle, R.N.

The following casualties have been announced by the War Office:—

Died of Wounds.

Second Lieutenant J. E. H. Freeman, Queen's (R. W. Surrey Regt.) and R.F.C.

Wounded.

Lieutenant G. M. Moore, R. Berks Regt. and R.F.C.

Second Lieutenant N. G. McNaughton, Royal Flying Corps.

Previously reported Missing, now reported Wounded and Prisoners of War.

Second Lieutenant M. A. J. Orde, Royal Flying Corps.

Second Lieutenant H. G. Frost, Suffolk Regt. and R.F.C.

Second Lieutenant F. N. Grimwade, Royal Flying Corps.

Previously Officially reported Wounded and Prisoner of War, now Unofficially reported Died of Wounds as Prisoner of War.

Second Lieutenant C. W. Palmer, Royal Flying Corps.

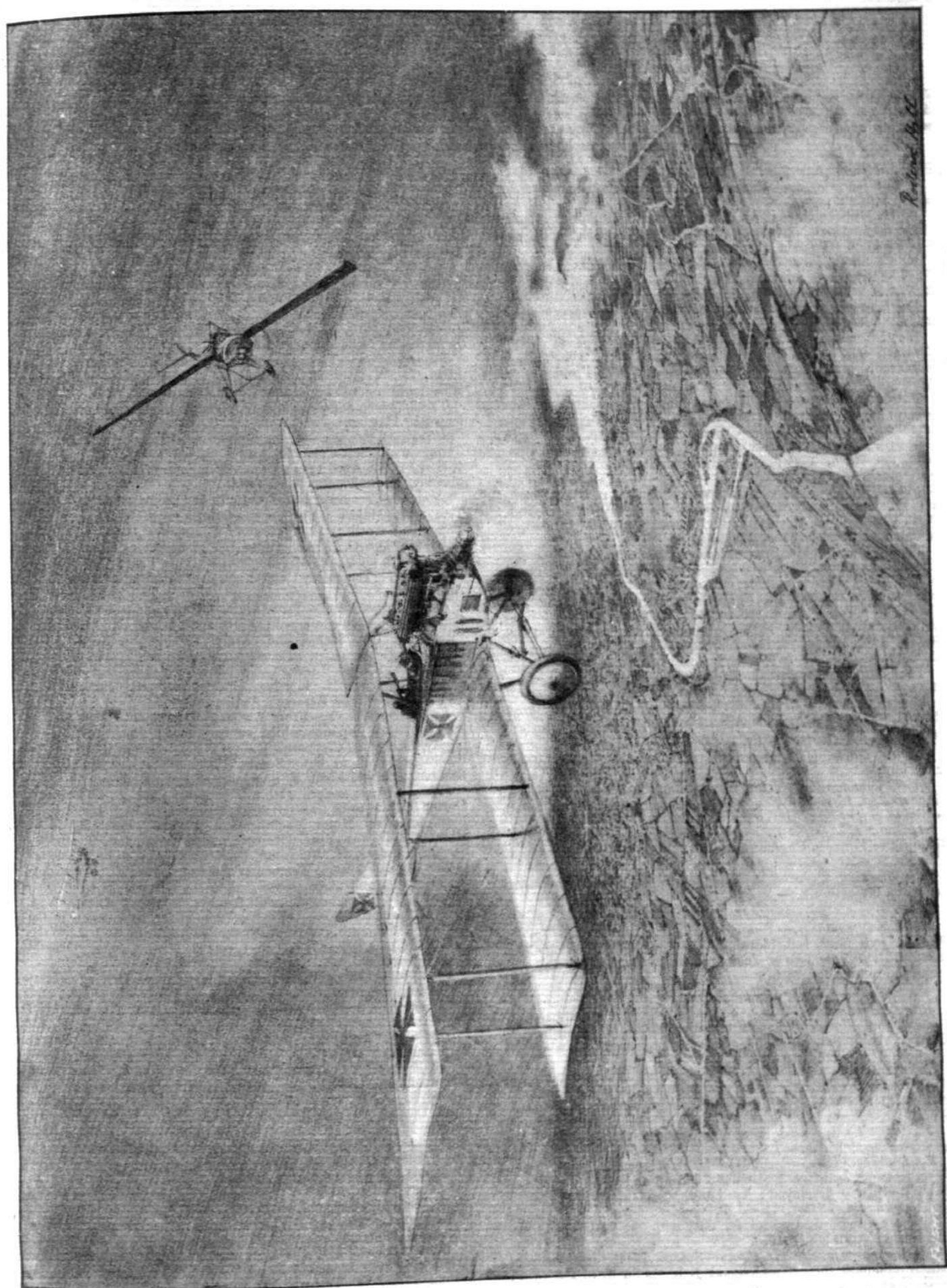
Previously Officially reported Missing, now Unofficially reported Wounded and Prisoner of War.

Second Lieutenant J. S. Castle, Royal Flying Corps.

Missing.

Second Lieutenant W. A. S. Brown, Argyle and Sutherland Highlanders, attached R.F.C.

Second Lieutenant W. C. Mortimer-Phelan, Royal Flying Corps.



A French Morane monoplane engaging a German battleplane. From an original drawing by Roderic Hill.

The British Air Service

"PER ARDUA AD ASTRA"

UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

The following appeared among the Admiralty announcements of the 25th ult. :—

A. H. Munday entered as Probationary Flight Sub-Lieutenant, for temporary service, and appointed to "President II," additional, for R.N.A.S. To date Mar. 25th.

R. C. Shortt granted a temporary commission as Lieutenant (R.N.V.R.), and appointed to "President," additional, for R.N.A.S. To date April 24th.

The following appeared among the Admiralty announcements of the 26th ult. :—

Lieut.-Commander (R.N.) R. C. Hayes, graded as Flight-Commander, with seniority of April 3rd. Lieut. (R.N.) R. S. Robinson, graded as Flight-Commander, with seniority of April 3rd.

The undermentioned Probationary Flight Sub-Lieutenants (temporary) have been confirmed in their rank with original seniority as follows: M. H. Spencer, Sept. 4th, 1915; A. J. O'Reilly, Oct. 25th; I. G. Kelly, Nov. 23rd; O. M. Ayrton and F. Towers, both Jan. 19th, 1916; G. M. Kingsmill, Jan. 25th; W. E. McConnell, Feb. 7th; T. R. Spence, J. W. Watson and T. C. Lloyd, all Feb. 24th; P. H. Hepburn, Feb. 26th; N. H. Fletcher and W. J. Calderwood, both March 6th; E. Ball, March 10th; B. P. Chase, C. A. Hervey, J. de Francia and W. A. Daniell, all March 13th; and J. Yates, March 29th.

The following have been entered as Probationary Flight Sub-Lieutenants (temporary), with seniority of April 30th, and all appointed to "President," for R.N.A.S.: L. G. Maxton, J. J. W. Nicholson, A. E. Taylor, E. E. Barnard, H. V. Rowley, I. P. Millar, G. H. D. Gossip, H. L. Nunn, J. D. Hewett, P. K. Fowler, W. Tod, W. B. Foster, E. A. Freeman, E. A. B. Tooth, H. S. Broad, E. L. Lister, W. Houston-Stewart, A. H. S. Lawson and C. Gilmour.

The following appeared among the Admiralty announcements of the 27th ult. :—

Lieuts. (R.N.) G. B. Chainey and T. G. Southwood, to "President II," additional, for R.N.A.S., May 1st.

Royal Flying Corps (Military Wing).

The following appeared in the *London Gazette* of the 25th ult. :—

Flight-Commander.—Temporary Second Lieut. N. A. Bolton, General List, from a Flying Officer, and to be Temporary Captain whilst so employed; April 6th, 1916.

Assistant Equipment Officers.—Second Lieut. H. A. P. Bale, Hampshire Fortress Engineers, R.E. (T.F.); Second Lieut. S. R. Proctor, Special Reserve; April 13th, 1916.

The following appeared in a supplement to the *London Gazette* issued on the 26th ult. :—

Attached to Headquarter Units.

Brigade-Commander.—Temporary Lieut.-Col. Duncan Le G. Pitcher, 39th Cent. Ind. Horse, Indian Army, from a Wing-Commander, R.F.C., and to be Temporary Brigadier-General whilst so employed; April 1st, 1916.

Establishments.

Wing-Commander.—Capt. (Temporary Lt.-Col.) Cuthbert G. Hoare, 39th Horse, Indian Army, from Assistant Commandant, Central Flying School, and to retain his temporary rank whilst so employed; April 2nd, 1916.

Supplementary to Regular Corps.—Second Lieut. (on probation) Stuart Russell Proctor is confirmed in his rank. John E. Appleyard to be Second Lieutenant (on probation), April 15th, 1916.

The following appeared in a supplement to the *London Gazette* issued on the 27th ult. :—

Equipment Officers.—Second Lieut. A. Heywood, Special Reserve, from an Assistant Equipment Officer, and to be Temporary Captain whilst so employed; April 2nd, 1916.

Memorandum.—Sergt. David P. Geddes, from R.F.C., to be Temporary Second Lieutenant for duty with the Military Wing of that Corps; April 7th, 1916.

Supplementary to Regular Corps.—Second Lieutenants (on probation) relinquish their commissions: J. J. Bland, April 1st, 1916; A. G. Grant, April 12th, 1916.

The following appeared in the *London Gazette* of the 28th ult. :—

Temporary appointments made at the War Office.

General Staff Officer, 2nd Grade.—Capt. B. C. Fellows, retired pay, Indian Army, from a Brigade Major, vice Major (Temporary Lieut.-Col.) W. W. Warner, retired pay, Indian Army; April 3rd, 1916.

Establishments.

Assistant Equipment Officers.—Second Lieuts., Special Reserve, G. A. Curtis, R. M. J. Dumphy, W. J. Sinclair and A. F. Palmer; April 11th, 1916. Lieut. J. A. V. Noel, R.A., and to be seconded; April 14th, 1916. Lieut. L. Findlater, 3rd Manch. R., Special Reserve, and to be seconded; April 19th, 1916.

Memorandum.—To be Temporary Second Lieutenants: Second Lieut. N. W. Morrison, from R.F.C., Special Reserve, for duty with the Military Wing of that Corps; April 12th, 1916.

The following appeared in a supplement to the *London Gazette* issued on May 1st :—

Wing-Commanders.—From Squadron-Commanders, and to be Temporary Lieut.-Colonels whilst so employed: Maj. F. W. Richey, R.A., April 11th; Capt. (Temporary Major) C. F. de S. Murphy, R. Berks. R., April 12th.

Squadron-Commanders.—From Flight-Commanders, and to be Temporary Majors whilst so employed: Capt. R. G. D. Small, Leins. R.; April 1st. April 2nd: Temporary Capt. G. A. K. Lawrence, D.S.O., R.A. Capt. J. E. Tennant, S. Gds.; J. B. T. Leighton, S. Gds.; R. M. Vaughan, R. Innis. Fus.; C. S. Burnett, Res. of Off. Temporary Capt. A. E. G. MacCallum, General List; April 14th.

Flight-Commanders.—From Flying Officers and to be Temporary Captains whilst so employed; April 2nd: Lieut. N. M. Martin, 38th Cent. Ind. Horse, Ind. Army. Temporary Lieut. N. C. Sampson, General List. Lieut. A. M. Wynne, Special Reserve. Temporary Second Lieut. O. S. Mosley-Leigh, General List. Second Lieut. J. H. Herring, Special Reserve. Second Lieut. C. C. Miles, Special Reserve; April 13th.

Equipment Officers.—From Assistant Equipment Officers and to be Temporary Captains whilst so employed; April 14th: Temporary Lieut. A. Cleghorn, R.E. (T.F.). Second Lieut. S. L. Dashwood, R.E. (T.F.). Second Lieut. S. C. Callaghan, Special Reserve. Second Lieut. F. Shumaker, Special Reserve.

Flying Officers.—April 11th. Temporary Capt. F. D. Berridge, Dorset R., and to be transferred to the General List. Lieut. C. L. Bath, Canadian Motor Machine Gun Service. Lieut. T. McD. Hawker, R. Ir. Fus., Special Reserve, and to be seconded. Temporary Second Lieut. G. H. Wilkinson, E. Kent R., and to be transferred to the General List. Temporary Second Lieut. E. C. Winkley, E. Surrey R. and to be transferred to the General List. Second Lieut. E. J. Watkins, Special Reserve. Second Lieut. C. J. Creery, Special Reserve. That portion of the notification in the *Gazette* of Feb. 4th, 1916, which relates to Lieut. G. J. L. Welsford, Middlesex R., and Second Lieut. H. F. C. Cannell, General List, is cancelled.

The appointments of the undermentioned Officers [Flying Officers (Observers) except where otherwise stated] are as now shown, and not as stated in previous *Gazettes*: Lieut. A. G. A. Garrod, Leic. R., Special Reserve, Oct. 21st, 1915. Temporary Capt. E. C. Perrin, Ches. R. (T.F.); Oct. 21st, 1915. Lieut. C. G. Burge, York and Lanc. R.; Nov. 11th, 1915. Temporary Second Lieut. W. H. Hargreaves, General List; Nov. 11th, 1915. Temporary Second Lieut. J. McArthur, General List; Nov. 11th, 1915. Second Lieut. A. W. Davies, R.A.; Nov. 22nd, 1915. Lieut. H. B. Davey, N. Staff. R. (T.F.); Nov. 22nd, 1915. Temporary Second Lieut. B. C. Rice, General List; Nov. 22nd, 1915. Temporary Second Lieut. R. Chadwick, General List; Nov. 22nd, 1915. Lieut. H. Clements-Finnerty, 17th Lancers, Flying Office (Observer), Nov. 22nd, 1915; Flying Officer, March 23rd, 1916. Temporary Second Lieut. C. T. Cleaver, General List; Nov. 22nd, 1915. Temporary Second Lieut. C. F. Portal, Motor Cyclist Section, R.E., Special Reserve; Nov. 22nd, 1915. Lieut. C. G. Beatson, Midd'x. R., Special Reserve; Nov. 22nd, 1915. Temporary Lieut. G. S. Inglis, General List; Nov. 22nd, 1915. Second Lieut. T. Henderson, Tyne Electrical Eng., R.E. (T.F.); Nov. 22nd, 1915. Second Lieut. R. Corbett, W. Som. Yeo. (T.F.); Nov. 22nd, 1915. Temporary Second Lieut. A. N. Vaucour, General List;

Nov. 22nd, 1915. Temporary Second Lieut. R. F. Wills, General List; Nov. 22nd, 1915. Second Lieut. K. B. Lloyd, R. W. Fus.; Nov. 22nd, 1915. Temporary Second Lieut. H. C. Evans, General List; Nov. 22nd, 1915. Temporary Second Lieut. H. E. Fletcher, General List; Nov. 22nd, 1915. Second Lieut. J. E. Catherall, R. War. R.; Nov. 22nd, 1915. Second Lieut. F. R. Hardie, 3rd Hrs., Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, March 31st, 1916. Second Lieut. L. A. K. Butt, S. Staff. R.; Nov. 22nd, 1915. Second Lieut. P. Anderson, Arg. and Suth. Highr., Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, Feb. 8th, 1916. Temporary Lieut. M. Jacks, Lond. R. (T.F.); Nov. 22nd, 1915. Second Lieut. R. Whitaker, Rif. Brig.; Nov. 22nd, 1915. Temporary Second Lieut. T. McK. Hughes, K.R. Rif. C.; Nov. 22nd, 1915. Lieut. L. W. W. Lees, Antrim R.G.A., Special Reserve; Nov. 22nd, 1915. Lieut. J. S. B. MacPherson, Canadian Art.; Nov. 22nd, 1915. Temporary Second Lieut. K. A. Creery, General List; Nov. 22nd, 1915. Temporary Lieut. J. C. Russell, R.E., Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, April 1st, 1916. Temporary Second Lieut. G. W. M. Green, Army Cyclist Corps; Nov. 22nd, 1915. Temporary Lieut. C. Porri, General List; Nov. 22nd, 1915. Lieut. H. French, W. York. R., Special Reserve; Nov. 22nd, 1915. Temporary Second Lieut. H. J. Payn, Motor Cyclist Section, R.E., Special Reserve, Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, March 25th, 1916. Lieut. M. W. Thomas, R.A.; Nov. 22nd, 1915. Capt. A. V. Holt, R. Highrs.; Nov. 22nd, 1915. Lieut. A. MacR. Moffat, Arg. and Suth. Highrs. (T.F.); Nov. 22nd, 1915. Temporary Lieut. O. [H.] Preston, Notts and Derby R. (T.F.); Nov. 22nd, 1915. Lieut. C. C. Haynes, Devon. R.; Nov. 22nd, 1915. Temporary Second Lieut. S. T. Welch, General List, Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, March 14th, 1916. Temporary Second Lieut. G. A. F. Layton, General List; Nov. 22nd, 1915. Second Lieut. A. D. Bell-Irving, Gord. Highrs., Special Reserve; Nov. 22nd, 1915. Lieut. J. H. C. Minchin, Sco. Rif.; Nov. 22nd, 1915. Second Lieut. A. H. Bottrell, R. War. R.; Nov. 22nd, 1915. Temporary Second Lieut. K. F. Balmain, General List; Nov. 22nd, 1915. Temporary Second Lieut. C. C. Russell, General List; Nov. 22nd, 1915. Temporary Second Lieut. S. G. Ridley, General List; Nov. 22nd, 1915. Temporary Second Lieut. A. L. Findlay, General List, Flying Officer (Observer); Nov. 22nd, 1915. Flying Officer, March 7th, 1916. Temporary Second Lieut. A. Murray, General List; Nov. 22nd, 1915. Temporary Second Lieut. A. J. Insall, General List; Nov. 22nd, 1915. Temporary Second Lieut. L. C. Drenon, General List; Nov. 22nd, 1915. Temporary Second Lieut. H. Hemming, General List; Dec. 14th, 1915. Temporary Second Lieut. A. R. Johnston, General List; Dec. 16th, 1915. Temporary Second Lieut. J. T. Kyffin, General List; Dec. 16th, 1915. Lieut. D. C. Rutter, R. Suss. R., Special Reserve, Flying Officer (Observer); Dec. 16th, 1915. Flying Officer, Feb. 8th, 1916. Second Lieut. E. Robinson, R.A.; Dec. 16th, 1915. Second Lieut. E. M. Gilbert, Essex R., Special Reserve; Dec. 18th, 1915. Lieut. W. S. F. Johnson, Leic. Yeo. (T.F.); Dec. 19th, 1915. Temporary Lieut. C. E. Sherwin, Hamps. Fort. Eng., R.E. (T.F.); Dec. 19th, 1915. Temporary Lieut. H. O. Long, R.E.; Dec. 19th, 1915. Second Lieut. S. E. Pither, K. O. Sco. Bord.; Dec. 19th, 1915. Temporary Second Lieut. H. A. Tweedie, General List; Dec. 22nd, 1915. Lieut. L. T. N. Gould, R.A.; Dec. 25th, 1915. Second Lieut. T. M. McKenna, 8th Hrs., Special Reserve; Jan. 3rd, 1916. Lieut. F. W. H. Simpson, R.A.; Jan. 5th, 1916. Second Lieut. Robert C. L. Holme, Som. L.I., Flying Officer (Observer); Oct. 21st, 1915. Flying Officer, Jan. 13th, 1916. Capt. K. E.

Kennedy, Canadian Art., Flying Officer (Observer); Oct. 21st, 1915; Flying Officer, Feb. 29th, 1916. Temporary Lieut. W. E. G. Murray, General List, Flying Officer (Observer); Oct. 21st, 1915; Flying Officer, Feb. 1st, 1916. Lieut. George D. Hill, 7th Hrs., Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 29th, 1916. Temporary Capt. R. H. Austin-Sparks, General List, Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 18th, 1916. Lieut. Gordon R. Elliott, 3rd D.G., Flying Officer (Observer); Oct. 21st, 1915; Flying Officer, Jan. 18th, 1916. Capt. Lancelot Prickett, R.A., Oct. 21st, 1915. Lieut. John Nichol, R.Sc. Fus., Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 18th, 1916. Temporary Lieut. A. J. Evans, General List, Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 18th, 1916. Second Lieut. Edward W. Leggett, Wilts R., Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 26th, 1916. Temporary Second Lieut. A. Ellison, General List, Flying Officer (Observer), Oct. 21st, 1915. Flying Officer, Jan. 18th, 1916. Temporary Second Lieut. H. H. Watkins, General List, Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Feb. 8th, 1916. Second Lieut. Geoffrey, J. L. Welsford, Middlesex R., Flying Officer; Jan. 29th, 1916; Temporary Lieut. G. Graham, General List, Flying Officer (Observer); Oct. 21st, 1915. Lieut. Herbert B. Russell, R.A.; Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Feb. 9th, 1916. Temporary Second Lieut. J. K. Summers, General List, Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Feb. 29th, 1916. Lieut. Reginald H. Marshall, Northern R., Special Reserve, Oct. 21st, 1915. Second Lieut. Robert L. Chidlaw-Roberts, Hamp. R., Oct. 21st, 1915. Lieut. Theodore E. Longridge, A.S.C., Oct. 21st, 1915. Lieut. Norman A. Browning Paterson R.A., Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Jan. 20th, 1916; Second Lieut. C. H. Tayler, Ind. Army Res. of Off., Oct. 21st, 1915. Temporary Lieut. E. L. Foot, General List, Flying Officer (Observer), Oct. 21st, 1915; Flying Officer, Feb. 10th, 1916. Second Lieut. Archibald H. Goldie, Bedf. R.; Oct. 21st, 1915. Temporary Lieut. A. J. Child, London R. (T.F.), Nov. 22nd, 1915. Lieut. Gordon Alchin, R.F.A., Special Reserve; Nov. 22nd, 1915. Temporary Lieut. J. M. E. Shepherd, General List; Nov. 27th, 1915. Lieut. A. R. L. Goodson, Lond. R. (T.F.); Nov. 27th, 1915. Lieut. Arthur F. Baker, D. of Corn. L.I., Special Reserve; Dec. 15th, 1915. Capt. Charles L. M. Scott, N. Staff. R., Special Reserve; Jan. 2nd, 1916. Lieut. John A. G. De Courcy, R.A.; Jan. 20th, 1916. Temporary Lieut. J. M. M'Alery, General List; Jan. 20th, 1916. Lieut. Edward H. Grant, Arg. and Suth'd. Highrs.; Jan. 20th, 1916. Temporary 2nd Lieut. H. C. Hopkinson, General List; Jan. 20th, 1916.

Wing-Adjutant. — Major M. Freeman, Worc. R., Special Reserve, vice Major N. D. K. MacEwen, Arg. and Suth'd. Highrs.; April 1st, 1916.

Memoranda. — To be Temporary Second Lieutenants for duty with the R.F.C., April 22nd, 1916: Sergt. Sidney Smith, from L'pool R.; (T.F.); Sergt. Alan Victor Voiteux-Buchanan, from A.S.C.; Corpl. Herbert Joseph Larkin, from 1st Signal Troop, Australian Corps, Australian I.F.; Pte. Oliver Byerley Walters Wills, from H.A.C.

Supplementary to Regular Corps. — Second Lieutenants to be Lieutenants, April 1st, 1916: Edward S. Skipper, Geoffrey H. B. McCall, Lionel M. Wells Bladen, Gilbert S. M. Insall, V.C., Gerald Merton, Clive F. Collett, Percy E. L. Gethin. Second Lieutenants (on probation) confirmed in their rank: W. J. Sinclair, R. M. J. Dunphy and G. A. Curtis.

To be Second Lieutenants (on probation): Frederick H. O'Beirne, March 25th, 1916; Douglas B. Sanders, April 11th, 1916.

THE FLYING SERVICES FUND—ADMINISTERED BY THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The Fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers, and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 166, Piccadilly, London, W.

Subscriptions.		£	s.	d.
Total subscriptions received to April 20th, 1916		10,623	16	8
J. E. Huson	...	10	0	0
Total, May 2nd, 1916		10,633 16 8

166, Piccadilly, W. B. STEVENSON, Assistant Secretary.

Another Aeroplane from Canada.

SPEAKING at a meeting of the South Bucks Conservative and Unionist Association on Saturday, Lord Desborough announced the receipt by the Imperial Air Fleet Committee, of which he is President, of a gift of £2,000 from the Dominion of Canada to provide an aeroplane.

The King at Aldershot.

DURING his visit to the troops at Aldershot last week His Majesty the King saw the start of a seven-mile cross-country race in which the first man home was Corporal Stidolph of the R.F.C. The event, for which there were about 800 entries, was won by a team of the Durham Light Infantry.



NATURE'S AIRSHIP HARBOURS

*As visioned by
J.P. and V.J.*



(Continued from page 198.)

Some General Considerations.

WHEN we consider the new activity which will be created by the more extensive use of aircraft in the future, an activity which will by no means be limited by the boundaries of this or any other country, but will triumphantly encircle the whole world; when we know that this activity will be governed greatly by external conditions, we realise that the selection of suitable harbourage for aircraft cannot be left in the hands of those who see only the necessity, on commercial or "business" lines, for placing these harbours in the vicinity of established centres of industry, without thought of the utilisation of natural conditions. In other words, being a scheme of great national and international importance, it should, therefore, have a scope and facilities commensurate with such a position. In any case, applied science, practical geology, and other physical sciences constitute the essentials of this scheme.

The economist will have, of course, a very important say in this matter, and it is certain that in well-advanced countries, like England, the choice of a suitable site will have to be somewhat of a compromise, between ideal natural conditions and the need of established industries. In the comparatively new countries, where the industrial activities are as yet primitive, this selection may be governed largely by favourable natural conditions.

Unless it is proved that air currents, &c., have no influence on powerful airships, or only an influence so negligible that it can be ignored, the choice of harbours would have to involve, besides geological considerations, an exhaustive study of air-currents, and all the theory attached to them. Although it is true that this question of air currents is greatly minimised as the speed of our aircraft increases, it must be remembered that on leaving or returning to their harbours the airships must necessarily be moving at a comparatively low speed, and are therefore, under these circumstances, within the influence of air currents and other atmospheric disturbances to a greater extent.

For this reason deep and long valleys may offer but a poor shelter for airships. The air currents reaching the mountainous ridges of such valleys, often become weighted with a considerable quantity of accumulated rain or snow, and this additional weight would cause them to rush down the valley with great force, forming treacherous eddies along its slopes. Again, the cooling of the earth during clear nights is followed by aerial currents, and in such places as deep valleys they gain in force amounting almost to a gale. The rocks, in contrast to the surrounding earth overgrown with vegetation, radiate air currents of different velocities, and this fact may render somewhat dangerous the employment of such rocky localities for harbours, especially as the horizontal currents would form considerable eddies against the rocks rising from the ground. For similar reasons the high cliffs round the sea coast may be found entirely unsuitable for our purpose. Perhaps a gently undulating country

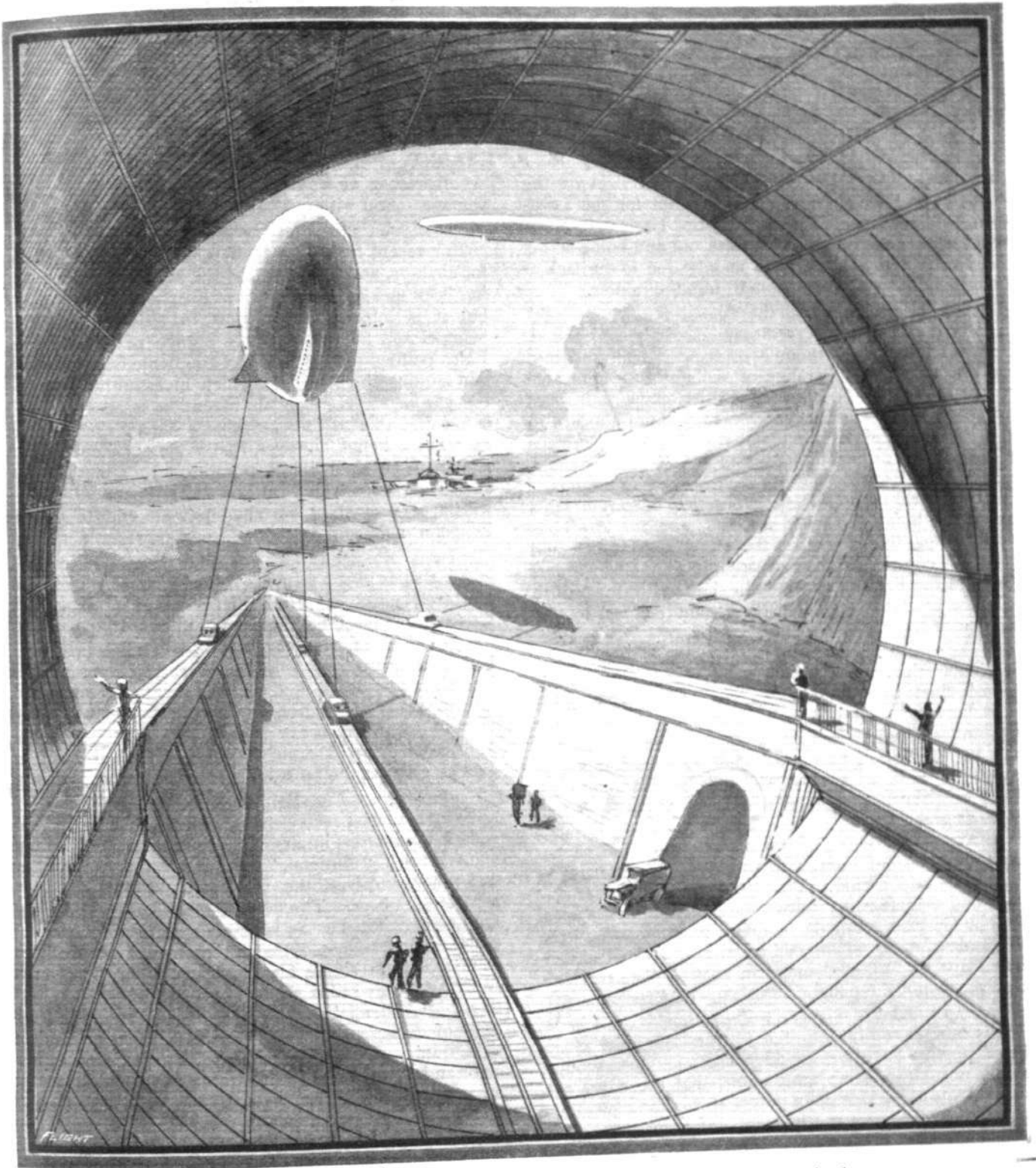
like the South Downs may present the most ideal conditions for airship harbours.

It will be seen, therefore, that all these points require very careful consideration, firstly in selecting our natural harbours so that they present the most favourable conditions as regards air currents, &c., and secondly, since we cannot be entirely immune from the latter and their effects, in finding a means of surmounting the difficulties thus presented. Perhaps it would be better to see how we would deal with the latter case first, since the problems obtaining in the former depend much upon the nature of the particular kind of geological formation that may be decided upon to serve as our natural harbour, and this will receive attention when considering these various formations.

When large ocean-going ships reach the vicinity of their harbours they have to reduce their speed and be carefully guided, usually by the aid of tugs, to the quay, and *vice versa* when outward bound: a slow and intricate process compared with their progress when at sea. It seems that it will be very much the same with the large airships of the future—a suitable landing space or outer-harbour, sheltered as much as possible, must be provided adjacent to the harbour, where the airship on descending is taken charge of by "tugs" and carefully guided into its dock. These "tugs" might consist of a series of electrical locomotives holding the airship forward, aft and amidships by its trail ropes, and running on rails suitably laid from the outer to the inner harbour.

Too much stress cannot be laid on the necessity to prepare for the coming development of aeronautics on the broadest and most generous lines. The past has one significant message for us: in no case has man fully anticipated the development of his own inventions or fully realised their significance. We may pass over the seemingly haphazard way in which villages and towns in Europe grew; we are, of course, not considering here their charms, beauties or homeliness. It seems as if our forefathers were satisfied with a village green, whereon to career round the may-pole. The system of streets and roads leading from these towns is at the present perfectly bewildering, as any motorist can verify. The railway system is equally arbitrary and confusing. The overlapping which is the outcome of commercial competition leads to national waste. This irrational growth of railway system in Europe can be directly traced to commercial competition and to the want of imaginativeness, timidity, or lack of optimism in man's progress. The war is a splendid, if terrible, example of how a nation can abandon individual competition for collective action, when it desires to gain a goal beneficial and necessary to the national welfare.

In the practice and science of aeronautics, which attained its present degree of usefulness in a few years, we must expect a phenomenal advance, a daring leap forward, of which there is no parallel in the world's



NATURE'S AIRSHIP HARBOURS.—In tow. Bringing an airship into harbour.

history. Judging from the experiences of the past, it seems as if we cannot anticipate enough, our imagination lagging behind the actual achievements of our own inventions. We ought to insist, therefore, that the controlling power affecting national and international aerial navigation should not be left in the hands of a few speculative individuals, and that the governing regulations should be truly national in character. This applies to the broad line of development of aerial traffic, to the future centres or airships-harbours, to the main aerial routes, to the laws affecting aeronautics, and also to the establishing of

uniform direction signs, signalling, maps, &c. It is safe to suppose that the use of aircraft in the near future will not be restricted to carrying heavy loads. Side by side with the largest airships and the most powerful aeroplanes, there will flourish a busy industry to supply the needs of private owners, for business, for pleasure, and for sport. Therefore, there will be left open a vast and remunerative field for private enterprise, not only connected with this building of aeroplanes and airships for private buyers, but also supplying the ever-growing demands of the national air service.



By R. P. HEARNE.

THE naval raid on Lowestoft has put new light on the Zeppelin problem for many people. But for the assistance of the Zeppelins as scouts the German cruisers could never have found a safe track out and home across the North Sea. And it was mainly due to our lack of Zeppelins that we were unable to trap the raiders.

Zeppelins and the Naval Raid.

How the Zeppelins served may be readily conjectured. Setting out in the afternoon they scouted high and low, and with a ninety-mile range of visibility they were able to map out the positions of British ships with great accuracy. The average range of visibility of the British ships would be about twenty miles, and thus the Germans could see the British by means of the Zeppelin scouts, whereas the British could not see the German cruisers.

For a naval vessel a distance of ninety miles represents over three hours' top speed steaming, and the Zeppelins by directing the course of the German cruisers could generally contrive to keep a margin of some hours' travel between the British and German ships. For the British to chase the Germans under these conditions was to play a game of Blind's Man's Buff.

Our Navy Handicapped.

The North Sea is a very big space, and if the whole British fleet were dotted over it there would be great gaps between each vessel. If our ships depend upon the limited range of visibility attainable from the highest part of the vessel, they are immensely handicapped as compared with an enemy who has mile-a-minute airships which can command a field of vision over four times as great.

I leave seaplanes out of this consideration, as I cannot say to what extent they were employed by our warships during the raid period. That our seaplanes render constant and magnificent service is undoubted; and against the one German escapade in many months we must put hundreds of cases where our naval aircraft spoiled German plans or furthered our own affairs. The seaplane, however, is not the equal of the Zeppelin for scouting.

Admiralty and Zeppelins.

It is now candidly admitted by the Admiralty chiefs that Zeppelins have special advantages as naval scouts; and I note with some amusement that the naval correspondents of various daily papers are beginning to allow that high-speed airships are essential for the navy. The melancholy fact remains that we have no fleet of rigid ships; and casting back not so long ago we may find that most of these naval experts dismissed the airship as a toy.

I think our naval men will be the first to agree with me when I say that if Germany to-day had as big a navy as ours, and had her present Zeppelin fleet, whilst we had no similar ships, things would go very badly with us. There is no miracle about British sea power. It is based on a solid foundation of numbers and efficiency. To sacrifice efficiency, or, in other words, to allow an enemy to gain higher efficiency in any respect, is to lessen the advantage gained by superior numbers. The Zeppelin scouts give an immense tactical advantage to the smaller German navy. If it happened that the numbers of the rivals' fleets became equal, then the Zeppelins might turn the scale in favour of Germany.

At all events, we would be fighting at a perilous disadvantage. And with our navy we cannot afford to do this.

Guns for Airships.

In a recent note I touched upon the subject of guns for airships, and I hinted that the difficulty of the recoil has been tackled. I am not at liberty to go into details, but it is interesting to know that developments are being closely followed in this branch of aerial warfare. I also pointed to the danger of the flame from an airship gun igniting the hydrogen which incessantly oozes from the gas bags. Here, again, invention is at work, but it is not desirable to indicate what is being done. I can express the belief, however, that when our Zeppelins are launched we shall be in a position to arm them with shell-firing guns which can be safely operated. When we have these ships we shall put an end to German Zeppelin raids, and we can add new power to our Navy.

Long-Range Fighting.

All this is in the future, of course, and meantime we must rely upon our guns. It is to be observed with satisfaction that the Zeppelins find very few easy jobs now in their raids, and the proportion of casualties to bombs dropped is growing smaller. At the same time it must not be overlooked that the number of shells fired by our guns in relation to Zeppelins wrecked is very great. But this does not prove that the gunnery is bad. It merely indicates that night firing against high-speed targets is, perhaps, the most difficult of all forms of gunnery.

The British Inventor.

From readers I receive many letters which show how wide is the interest in airships. One correspondent, who signs himself "Airfiend," tells me that as far back as 1883 he conceived the idea of a rigid airship with separate gas bags. The notion arose in a novel manner. On one occasion he saw a hawk with a crate of toy balloons, and he noted that a number of the balloons were strung in single file to a lath. The flimsy crate broke and away sailed six balloons carrying a lath with them. "Airfiend" saw in this circumstance the feasibility of caging a number of separate ballonets inside a rigid framework; and he tells me that years of experiment and study have given him many useful ideas for improving airships.

That my correspondent has received little support in his labours goes without saying, for the fact remains that we have no high-speed airship fleet. I know nothing about the value of "Airfiend's" inventions, but I can believe that he is typical of a class of man in this country to whom we owe many of our great inventions. A few of these workers are lucky and successful, but the great majority of them eat out their hearts in bitter disappointment. The public pay rich fees to men who invent "revues" and music hall jokes, but the inventive engineer has a poor time of it.

Our Anti-Technical Education.

Our whole system of education is anti-technical. Our newspapers put politics, sport, society gossip, fashion puffs, and theatrical rubbish in front of science and technical affairs, and it is really a marvel that we have held our own so well against Germany, where so much has been done to foster invention and industry.

ARMCHAIR REFLECTIONS

by the
"Dreamer"



THOUGH the place in which I rest on this warm, sunny, Sunday morning is in the very heart of the forest, I sit on my own ground, my back against a gigantic oak which is mine by inheritance, for I am of the English people, and this is common land: our forest.

Here, I feel, a man may surely live in peace; die respectably, for all around is nothing but that which breathes peace and the joy of living.

It is my pleasure to wander out here in the summer-time. Perhaps it is instinct following on a week of necessitous striving for a livelihood, with all its toil, and noise, and struggle which awakens a desire to get away with nature. Perhaps it is a desire for untrammelled freedom, away from all the artificialities with which we surround ourselves in populous places, in a vain attempt to replace, by these trumpery means, the beauties which nature has so freely showered upon us. Perhaps it is but the harking back to nature which must at times come upon all but those with annihilated instincts, even as "the call of the wild" returns to those Alaskan wolf-dogs, so intimately understood and so graphically portrayed by Jack London.

Here is no board commanding me in abrupt words that I may not smoke "by order," yet here I do not smoke. I, who am a smoker at all other times and in all other places, feel no desire here to attempt to gain, by man-made subterfuges, any ascendancy on the provisions of a generous nature to my enjoyment.

Here the sweet may-scented air is in my nostrils. The beauties of a green-budding spring-time are all around me. No sound but the distant cooing of a wood-pigeon breaks the silence, save only that deep rumble, hardly more than a murmur, which tells me of the nearness of London and its wide-flung suburbs.

Almost at my feet is a silent pond, all sprouting now with the young rushes raising their bright green points above its still waters, and I am reminded of Ingoldsby, for here is the very pond conjured up by the story of the Lady Jane who was tall and fair, of the Lady Jane who was slim. Of Sir Thomas, her lord, who was stout of limb, and who wore big specs. with a tortoiseshell rim, and a very big hat with a very wide brim. And I can quite understand that being a lover of nature, she was remarkably fond of him, and they were a loving pair.

There must be a wine in this lovely wind which is rustling the young leaves, a wine with a bouquet, a wine with some subtle influence on mankind, a wine which makes a man a natural man. For before me, not one hundred yards away, I see a man in a black morning suit and a tall silk hat climbing a tree. Not really climbing, because the tree is felled, but there, to amuse his children, he has walked up a spreading branch until, like a tight-rope walker, with outstretched arms, he balances himself quite fifteen feet from the ground—a man in a tall hat! His wife looks on, unashamed. I cannot imagine him so dressed walking the railings in Hyde Park on a Sunday morning.

Railings are generally erected to show somebody's authority—something is railed in. There are always these attempts, sometimes successful, by somebody, to rail off for themselves; to take from others; to enjoy selfishly. Here where I sit there is one portion railed off on the bank of the pond. Here is somewhere I must not go, although it is common land. Dotted about as I walked through the forest this morning there were villa residences—railed in. Without a doubt, not one of them had any just right to be there; half the forest has been confiscated. As I came here an hour ago I passed a gun-station. I suppose our enemies know we have gun-stations, so I may not fall foul of the censor. Also I make no statement of the direction whence I came, or where I sit. I could see the men sitting round their gun, basking in the sunshine. That gun is there because somebody wants to rail something off: to take more to themselves.

An aeroplane, high up in the distance, which I can just see through the lightly-leaved branches, tells me of the ever incessant struggle of man to hold his own, and to add to it as may be.

Even as I write these lines, a forest-keeper in his fustian coat of brown has appeared on the edge of the clearing, emblematic that even here, where the great gifts of nature are free for all to enjoy, vigilance is necessary to prevent man's selfishness.

These great hoary oaks, against one of which I am leaning, must have seen many changes during their lifetime. Boughs that softly waved above Queen Elizabeth now wave above the humble writer of these reflections; will wave above generations yet to be. How mighty they are in their great age. How they must smile in their iron hearts at the puny insignificance, self-magnified into importance, of we mere humans: things, to them, of but a day or two's passing. They shelter us as children, smile upon us when, as men, we think to alter and enhance nature, furnish of their brethren wood for our coffins when we return to that earth from which, in common with themselves, we sprang.

Common to the earth, with more than enough of its bounteous gifts to go round, man must ever be selfish, and struggle for more, to the impoverishment of his brothers. William of Germany is not satisfied with all his vast possessions. He would, if he could, take from us, and from me, even my enjoyment of our common forest land: he who has already so much.

And so we build aeroplanes, and ships, and guns. And so our brave brothers, and sons, and husbands are dying in their thousands to keep free for us this, our England.

May we, who are left, see to it that they die not in vain. May we see to it that into aviation, which is our particular part in the great scheme of defence, is put every ounce of thought and strength which is in us, eliminating all bickerings and self-aggrandisement, so that in the future we may be worthy of our Flying Service, and our Flying Service a credit to our Nation.

LORD MONTAGU'S SCHEME.

AT a meeting organised by the Navy League, held at the Queen's Hall, on April 28th, Lord Montagu of Beaulieu again dealt with the present position of the Air Service, and put forward some suggestions with regard to their unification as one Imperial Air Service with the motto *In Celo Impero* (Supreme in the Sky). Mr. Robert Verburgh, President of the League, was in the chair, and among those on the platform were Lord Leith, Lord Blyth, Lord Robertson, the Earl of Hardwicke, the Lord Mayor of Bradford, the High Commissioner for New Zealand, Mr. H. Nield, K.C., M.P., Sir C. N. Nicholson, M.P., Col. J. Gretton, M.P., Sir H. F. Hibbert, M.P., Mr. A. St. G. Hamersley, M.P., Mr. A. Shirley Benn, M.P., Mr. Ellis Griffith, K.C., M.P., Sir T. Dewar, Admiral Fremantle, Admiral Sir E. Wilmot, and the Mayors of Greenwich, Deptford, Bermondsey, Battersea, Kensington, Lewisham and Wandsworth.

In opening the meeting, the Chairman recalled that in 1913 the Navy League organised a meeting at the Mansion House, at which resolutions were unanimously passed urging the Government to adopt a vigorous policy in order to secure our supremacy in aircraft. To-day, after 20 months of a war, in which we were fighting for our existence as a free people, this meeting had been called for precisely the same purpose. Why had that been necessary? Because the Government had failed to recognise the supreme importance of the subject.

Lord Montagu said he was not the only air missionary. There were others who believed in the use of red paint and the help of the big drum, but personally he thought it was better to confine oneself to reason and argument, rather than take the more picturesque form of speech. Because the matter was of so great importance, he was going to put his whole soul and strength into it.

There was a general lack of co-operation between the Admiralty and the War Office in all matters concerning aviation. Rivalry and competition might be very well in times of peace, but in times of war we should have co-operation, not competition between departments. There had been overlapping in buying and competition for the output of the same factory. There were duplicate staffs for various kinds of purposes, such as inspection of parts and complete machines. As time went on the two branches necessarily clashed more and more in point of executive administration and policy.

At the present moment there was one very important branch of aviation upon which the Cabinet had not yet come to any decision, and which was not allocated to either of the two air services. That was a scandal. The interchange of designs and results of experiments was of the most shadowy kind. There was often quarrelling between departments in the same office; and departments were not their own masters, but were liable to be dictated to by administrative heads, who, clever and scientific as they might be, had little sympathy with and little knowledge of the subjects referred to them.

The Admiralty, he thought, had shown more vision than the War Office, certainly in the matter of machines. It was due to Mr. Churchill to say that in the early days of the Royal Naval Air Service he did good work because he had a certain amount of vision, but he did ill-service in that he did not believe in the rigid airship as a necessary part of the eyes of the Fleet. For courage in experimenting, striking out new lines, and being original, the Royal Naval Air Service was ahead of the Army Air Service.

The War Office had certainly improved matters lately in regard to the Royal Flying Corps. They were gradually getting better engines, improving their personnel, and had a representative on the Army Council. Would it not be advisable for the Admiralty to copy that example, and have a representative of the Royal Naval Air Service on the Board of Admiralty? It would certainly tend to greater efficiency.

It was said that we must go on with the Royal Aircraft Factory on the present system. He was told on very good authority that the factory was thoroughly distrusted in the aircraft trade. If that was true it was regrettable. If we were going to have a Government factory at all it should be in alliance with and have the support and confidence of great firms who were building engines and planes. It should be the consultant of the inventor, the designer, and the manufacturer, but never a competitor. In France and Germany all the finest engines and planes came out of private works. He had never known in any direction a Government department doing work so efficiently as private firms.

Lord Montagu then went on to sketch some of his proposals. He would, he said, abolish the present titles of the two air services, and substitute the title Imperial Air Service, because it was going to be a service more imperial in character than any existing service. He hoped to see its pilots drawn from all parts of the Empire, machines from our great sister nations, and planes building wherever the British flag floated to help to police the Empire. He would also include in the scheme the anti-aircraft service. He would not

interfere in any way with the executive in the present war, save that as soon as it had met the needs of the Navy and the Army it should have power to start long range bombing expeditions.

The Board of Aviation should first concentrate itself upon problems of design, construction, and supply of airships, aeroplanes, and seaplanes. In the future we should want many types of planes. At present there was not sufficient distinction between the planes used for bombing, reconnaissance, fighting, and photography. We must have planes for each purpose. The Board of Aviation should combine all the energies, and experience, and ability of the present staffs as much as possible. If all this was done he should be content.

But to do it we must have a man to carry the proposals into effect—whether he was called President of the Board of Aviation or Air Minister did not matter—he must be a man who would have equal weight in the Government as the Ministers who represented the Admiralty and the War Office, or any other office of State. Scientific experiment should be more considered than it was now. The problems of aviation were as yet only half solved. We should spend hundreds, even thousands, of pounds a year on the discovery of scientific facts. The nation which first achieved such discoveries would have an enormous advantage. Before the war it had been all thinking and very little construction. Now it was a great deal of construction and very little thinking.

Where was the opposition to those proposals to come from? The country was much keener on the subject than the Government. In regard to all the big things in this war, it had been said that the country had been first, the Houses of Parliament second, and the Government a bad third. He did not see any opposition to the change amongst the personnel of the two services, or from any people worth talking about. The only opposition was that of a certain number of Ministers and a certain number of heads of departments.

Our governors and departmental chiefs did not like the idea of a plunge. When people did not want a change they started quoting proverbs. Ten times a day he heard from people in official circles something about "not swopping horses while you are crossing the stream." That was the natural attitude of a Government department. Some people who could not see more than a few inches beyond their noses talked about others like himself as wild cranks who were trying to stir up trouble. He was absolutely indifferent to that. He regarded it as a tonic. He liked being abused, and revelled in criticism; it spurred him on, and showed him his weak points.

He knew there were enlightened members of the Cabinet who were trying to persuade their colleagues in the direction they desired. Those men were helping and would do their best. He had frequently been asked what his position was—did he want to become Minister of Aviation? Was he out for a job? He was out for a job, and the job was to put the truth before the people of this country and to try and convert the Government. But he told them frankly that if this or any Cabinet were to ask him to act as official head of military and naval aviation, he would do it, and put his whole heart and mind and strength into the job.

He would equally serve under any other qualified person; he would sweep the steps of the office if it would do the country good. Even if he were not wanted for that humble job he would go back gladly to India in September and serve the Empire on the frontier as he did for nine months of last year. Therefore, to those who asked if he was out for a job he said he would do anything to help on this great cause. What we wanted was to encourage the juniors, the men who were doing the work and knew the business, in both services, and to have new men with new ideas at the top. We wanted new men with new ideas to rule the Empire as well as to rule aviation.

He asked the meeting to send a clear message to the Government. "Tell them they must not stand trembling on the brink of decision, but that action must be taken. I know you will do this, and help me to lay well and truly the foundations of the Imperial Air Service upon which in a few years will depend the destiny of our Empire and our race."

On the motion of the Lord Mayor of Bradford, seconded by the Mayor of Kensington, the following resolution was carried unanimously:—

"This meeting, representative of every phase of public life in the Metropolis and of every school of political thought in the country, urges upon His Majesty's Ministers the pressing necessity for more vigorous and comprehensive measures in relation to Aircraft as an arm of National Defence; and as the best means of securing that object approves the creation of a Board of Aviation under the control of an Air Minister with a seat in the Cabinet."

A vote of thanks to Lord Montagu was moved by the Earl of Meath and seconded by Col. Walter Faber, M.P.

THE "X" AIRCRAFT RAIDS.

In view of the decision of the Government not to allow details of places visited by enemy aircraft to be published, we are, as before, giving to each one an index number. Eventually, when details are available, we shall give the respective information under these index numbers, which will facilitate easy reference to each particular raid.

The following announcements have been officially issued, the date after the index number indicating when the raid occurred:—

"X 31" Raid, April 24th.

"War Office, April 26th, 4.25 p.m."

"With reference to the raid over the eastern counties on Monday night, the total number of bombs discovered is about 100. There was only one casualty. The damage consists of the death of one horse, the destruction of a haystack, and much broken glass."

German Version.

"Berlin, April 26th."

"Simultaneously with the attack of our naval forces (on Lowestoft) a naval air squadron attacked during Monday night the eastern counties of England, and bombs were dropped with good effect on industrial buildings at Cambridge and Norwich and railway buildings near Lincoln, and on batteries near Winterton, Ipswich, Norwich and Harwich, as well as on enemy patrol boats off the coast. In spite of a most violent bombardment, all our airships landed untouched in our harbours."

"X 32" Raid, April 25th.

"War Office, April 26th, 4.25 p.m."

"No fresh facts have been reported concerning the Zeppelin raid

of last night. The Thames Estuary was visited by the raiders and over 100 bombs were dropped.

"Not a single casualty is to be recorded."

German Version.

"Berlin, April 26th."

"During the night German military airships attacked the English fortified and port establishments of London, Colchester, Blackwater, and Ramsgate, as well as the French port and the large English supply depot at Etaples.

"X 33" Raid, April 26th.

"War Office, April 27th, 2.15 a.m."

"Zeppelins were reported over the East Coast of Kent between 10.30 and 11 p.m. last night.

"No reports as to their having penetrated far inland had been received up to the time of the issue of this *communiqué*, and as it is misty over East Kent it is probable that they turned back before midnight.

"It is reported that one bomb was dropped, which fell into the sea."

German Version.

"Berlin, April 27th."

"Last night an airship attack was carried out against the harbour and railway establishments of Margate, on the east coast of England."



AIR RAID CASUALTIES.

The following correspondence has passed between the Home Secretary and Mr. Pemberton Billing, M.P., on the subject of the casualties resulting from air raids:—

"Home Office, April 14th, 1916."

"Dear Mr. Pemberton Billing,—In the House of Commons yesterday you addressed a question to the Prime Minister in which it was alleged that the actual number of deaths from Zeppelin raids had been concealed from the public; and, on the Prime Minister answering that there had been no such concealment, you asked a supplementary question indicating that you had facts in your possession which would support the allegation. As the Home Office is the Department whose duty it is to collect from the local police the particulars of these casualties, I should be very much obliged if you would send me the evidence which has led you to believe that the number has not been correctly given, in order that I may make inquiry.

*"Yours sincerely,
"HERBERT SAMUEL."*

"4, Elm Court, Middle Temple, E.C., April 18th, 1916."

"Dear Mr. Samuel,—In reply to your letter of the 14th, the particular case I had in mind when I put my question to the Prime Minister was X. On the occasion of a personal visit to one of the areas which had been devastated, the roads were closed and a policeman was in charge. In reply to my question as to how many people were killed here, the policeman answered 'About two.' I naturally challenged so vague a statement, and invited him to accompany me while I visited the ruined homes and adjacent houses. From subsequent conversations with residents, it ultimately transpired that the number was greatly in excess of that stated by the constable.

"I challenged the constable on his statements before leaving. He replied that he was obeying orders in giving the figure he had quoted. It is in the interests of public confidence that official figures should not be questioned locally, and when, as in this and other cases, the total casualties after a great raid fail to conform with local knowledge, it induces lack of confidence in official statements which is prejudicial to the public interest.

"I should like to call your attention to the casualties which occurred at Y. and Z. Should it be your intention to make public the actual figures, if you find the original official statements inaccurate, I shall be pleased to assist you with further information, but as my sole object is to reassure the public, I should respectfully decline to engage in the matter unless I could be assured that publicity would be given to the result.

*"Sincerely yours,
"N. PEMBERTON BILLING."*

"Home Office, April 22nd, 1916."

"Dear Mr. Pemberton Billing,—I have received your letter of the 18th, in which you are good enough to supply me with the

evidence on which you have based the grave charge that the Government have falsified the figures of casualties from Zeppelin raids.

"With respect to the raid on the night of April 1st, the official *communiqué* published two days later stated correctly that 16 deaths had been reported. All these were in X.; there were no deaths elsewhere on that occasion. With respect to the attack on the night of March 31st, the first estimate published on the following morning gave the number of killed as 28; 23 of these were at Y. Later information showed that this was an under-estimate; two days later the total number of deaths had been ascertained to be 43, and this figure was at once published. Of these, 28 were at Y. There were no bombs dropped at Z., and no deaths. The numbers have since been increased by the deaths of a few among the injured.

"The figures of casualties have always been collected with the greatest care and accuracy, and published precisely as received. I cannot refrain from saying that it is not a little mischievous that any member of the British Parliament should, from his place in the House of Commons, cast doubt on the truthfulness of statistics officially published, causing disquiet in the public mind and giving material for the propaganda of the enemy, which he will not be slow to use. But it is amazing that an accusation of this character should be made when it rests on no better foundation than a casual remark by a policeman in the street, which, as a matter of fact, may have been quite accurate in relation to the particular area to which it referred.

"I would propose to publish this correspondence, with the omission of the names of places.

*"Yours sincerely,
"HERBERT SAMUEL."*

"4, Elm Court, Middle Temple, E.C., April 24th."

"Dear Mr. Samuel,—In reply to your letter of April 22nd, I entirely concur with your suggestion that this correspondence should be published—when complete. I do not propose, here and now, to comment on the organisation, or the lack of it, which results in such discrepancies in the series of published casualty lists as those disclosed in your letter.

"Permit me to point out that in your anxiety to prove the innocence of the Government of the 'grave' charge of falsifying figures—a charge which I never brought—you have confused the issue on the charge made in my question, to which I beg to refer you. My question was in these terms:—

"(a) To ask the Prime Minister whether it is with the sanction of the Government that the actual number of deaths from Zeppelin raids has been withheld from the public; and can he give an assurance that in future there shall be no attempt to conceal the total casualties.

"(b) For your information I may say that it was not 'the casual remark by a policeman in the street,' but the repeated statement of the policeman actually told off for special duty in this particular

area, and he, when challenged on the inaccuracy of his figures, did not deny my total, but declared that his reply was according to instructions. It was in the particular area which this constable was told off to guard that I obtained an entirely different total of deaths.

"To complete this correspondence for purposes of publication, it is advisable that I should visit in person or by representative the places raided, so as to obtain further corroborative evidence for your benefit.

"I have therefore the honour to request that I may be furnished by your department with such permits as will allow me or any one responsible person agreed upon, to conduct on the spot, with the assistance of the local authorities, full inquiries into the true state of affairs, without the possible inconvenience of being arrested on some frivolous charge under the Defence of the Realm Act.

"I trust that the result of such inquiries will justify me in assuring the British public that present official policy is well advised, and that I may thus be instrumental in regaining for the Government that public confidence which the ever-increasing mass of my correspondence indicates to be grievously lacking.

"Sincerely yours,
"N. PEMBERTON BILLING."

MR. PEMBERTON BILLING AT THE ALBERT HALL.

THERE was a large gathering at the Royal Albert Hall on Saturday to hear an address by Mr. Pemberton Billing, M.P., in connection with his Imperial Air Convention campaign.

In the course of his remarks he said that the only way to deal with Zeppelins is to attack them where they are built and housed, and the reason why he had started the Imperial Air Convention was to enable the nation to force the Government to build sufficient aircraft to regain the supremacy of the air, and take a vigorous offensive against the enemy. "What is the money cost of air supremacy?" he said. "The cost of seven days' war." It was impossible to create the necessary air service by merely amalgamating the aerial equipment and personnel of the Navy and Army. He paid tributes to the Navy and the Army, and said that those branches of the Forces would need aviators for reconnaissance and observing, but there must be a new service for fighting in the new element.

The war came and we were unprepared. A policy of rapid building was begun, and although for the first few weeks, through our splendid personnel, we had the supremacy of the air, we lost it through neglect. We were now a third-class Air Power. Germany was first and France second. If this war went on for another twelve months, he should be surprised if the final blow was not struck from the air.

"Home Office, Whitehall, S.W., April 26th.
"Dear Mr. Pemberton Billing,—I waited from last Saturday, when my previous letter to you was sent by hand, until to-day (Wednesday), before sending the correspondence to the Press, but not receiving any answer I assumed that you did not propose to add anything and did not demur to publication, and it was accordingly issued to the Press Bureau. Subsequently I received your letter, which, although dated April 24th from the Temple, did not reach me until this evening.

"No facts have yet been advanced which would furnish ground for any official inquiry into the statistics of deaths from Zeppelin raids, and I fear I cannot see my way to confer upon you the authority of a Government Commissioner for the purpose of such an investigation. If, however, you will inform me what is the area in X to which you refer in your letter, what is the total of deaths which you describe as 'my total,' the date of your conversation with the policeman and (if possible) his number, I will be glad to make inquiries in the locality.

"Should you desire it, the remainder of the correspondence shall be sent to the Press.

"Yours sincerely,
"HERBERT SAMUEL."

It was time to take the conduct of the war out of the hands of the politicians and place it in the hands of soldiers, sailors and statesmen. His plan was an Imperial Council of Nine. Let there be a man from Canada—Borden for choice; a man from South Africa ("Botha"), and a man from Australasia ("Hughes"). Let there be a sailor, a soldier, and an airman also. To these he would add, as representatives of the people at home, a Liberal, a Conservative, and a Labour man. This war council might form a Committee of the House of Commons for various purposes.

Their aim should be to secure for this country the same supremacy in the air as our forefathers had secured for it on the sea. If the peace terms did not contain a provision giving us control of the German means of providing an air service, we should be a damned nation in ten years' time. The nation that was supreme in the air would in future dictate to the world.

The following resolution was adopted:—

"This meeting, convinced that the safety and welfare of the British Empire depend in a great measure on supremacy in the air, pledges itself to use every effort to attain and maintain for this country an Imperial Air Service worthy of its Imperial power."

PERSONALS.

Casualties.

Lieutenant ALAN WILMOT DAVIES, R.F.A., killed on Easter Sunday, April 23rd, aged 20, was the younger son of Mr. J. H. W. Davies, of 25, St. John's Park, Blackheath. Educated at Stratheden House, Blackheath, and Wellington College (Combermere Dormitory), he passed into the R.M.A., Woolwich, in January, 1914, and obtained a commission in the R.F.A. in November, 1914. In May, 1915, he went to the front, and later, having qualified as an observer in the R.F.C., he was sent out again to the front in July. He came home in November and obtained his flying certificate, and was qualifying for his wings when he was killed.

Second Lieutenant JAMES EDWARD HULTON FREEMAN, Royal West Surrey Regiment and R.F.C., who was killed on April 24th, aged 19, was the only son of Mr. and Mrs. Joseph Hulton Freeman, of The Holt, Walton-on-Thames.

Second-Lieutenant JOHN MILNER, R.F.C., aged 26, whose death has been reported, was the youngest son of Mrs. and the late Mr. T. Milner, of Darlington. Death was the result of wounds received in action. He was formerly assistant chemistry master at Darlington Grammar School. As a lad he won a scholarship at the Beaumont Street School, becoming a pupil at the Grammar School, where he won further scholarships. He afterwards taught for a year at the Gurney Pease School, and then went to Armstrong College, where he obtained his B.Sc. degree. He was assistant master at Darlington Grammar School three years, and then secured the position of science master at Purley Grammar School, where he was at the outbreak of the war.

Lieutenant WARREN COLECLOUGH PEMBERTON, of the Canadian Infantry and the R.F.C., who was killed on April 25th, aged 20 years, was the second son of Mr. E. B. Pemberton, of Victoria, B.C.

Flight Sub-Lieutenant ARTHUR CONNORTON SAW, R.N., who was killed on Good Friday in a seaplane accident, at the age of

34 years, was a son of Mr. and Mrs. Saw, of 17, Glenlue Road, Blackheath. He was educated at Blackheath School and in the training ship "Worcester." Before the war he was a navigating officer (first officer) in the Eastern Telegraph Company's service, and held a master's certificate. After the outbreak of war he obtained a commission in the R.N.R., and was present at the bombardment and taking of Duala. At the beginning of 1915 he joined the Royal Naval Air Service, and became an experienced pilot. In October last he married Harvey, daughter of Mr. and Mrs. MacLennan, of Grainbank, Kirkwall.

Wounded.

Captain DANIEL HARRISON MACDONELL, D.S.O., Highland Light Infantry, reported wounded, is a son of the late Mr. James Macdonell, of Glengarry, and was born in 1875. He served in the South African War, getting the Queen's medal with five clasps, and in the Kana Soto Campaign of 1906, when he was wounded, got the medal with clasp, and was also awarded the D.S.O. He also took part in the expulsion of the Germans from the Cameroons, being again wounded. Captain Macdonell was early last year appointed a Flying Officer in the Military Wing of the Royal Flying Corps, and in December last was made a Captain in the Highland Light Infantry.

Married and to be Married.

A marriage has been arranged, and will take place shortly, at Ulverston, between Flight-Commander JAMES WILLIAM OGILVY DALGLEISH, R.N.A.S., Lieutenant R.N., only son of Captain James Ogilvy Dalgleish and of Mrs. Ogilvy Dalgleish, of Glebelands, Wokingham, and grandson of the late Captain James Ogilvy Dalgleish, R.N., of Woodburne, Fife, and SYBIL GUINEVERE BUTLER, younger daughter of MYLES KENNEDY and of Mrs. MYLES KENNEDY, of Stone Cross, Ulverston.

Items.

The promotion to Lieutenant of Second Lieutenant GILBERT S. M. INSALL, V.C., Royal Flying Corps, is announced in the *London Gazette*.



London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Straights with instructor last week: Messrs. Burrell, Hillaby, Matthews, Phillips, Rabourdin, Forster, Parkinson, Mulville, Sloden, Smith, Goodhart, Bathurst, Spencer, Stapley and De Beer. Circuits with instructor: Messrs. Williams F. and Box. Eights with instructor: Messrs. Scheidt and Walk. Circuits alone: Messrs. Leigh and Kryn. Eights alone: Probationary Flight Sub-Lieut. Griffin, Messrs. Hathaway and Sandys.

Brevets during week: Messrs. Henshaw, Holman and Timmis.

Beatty School.—The following pupils were out during last week: Messrs. d'Allesina, Schollaert, Atkin, Cuthbert, Barrow, Mossop, Sellars, Parsons, Martin, Roberts, Knox, Smith, Stanley, Tjaarda, Dowding, Gaskin, Skeet, Hick, Earl, Davy, Garlick and Kay.

The instructors were Messrs. G. W. Beatty, R. W. Kenworthy, G. Virgilio, H. Sykes, A. E. Mitchell and H. Fawcett, the machines in use being Beatty-Wright dual-control and single-seater propeller biplanes and Caudron dual-control and single-seater propeller biplanes.

Mr. F. V. Branford flew for his certificate.

Six passenger flights were taken during the week.

Hall School.—Since the last report pupils of the Hall school have secured five Royal Aero Club certificates, and during last week the following pupils were receiving instruction after the short Easter vacation:—With Instructor P. G. Allen (late R.F.C.): Lieut. Armitage, Gaskell, Pennell, Collier, Robinson, Capt. Deane, Dickson, Rayne and Rand. With Instructor Anstey Chave (late R.N.A.S.): Cowpey, Hooker, Rochford, Cosgrave, Smith, Duncan, Mahoney, Glegg, Milburn and Halliday. With H. F. Stevens: Dodds, Collins, Cook and Sepulchre.

The Royal Aero Club certificates were taken by Lieut. Cooke, Arnsby, Sepulchre (test A), Collins and Cook.

London and Provincial Aviation Co.—Pupils rolling last week: Messrs. Quayle, Egelstaff, Crawford, Jones, Evernden and Pulford. Doing straights: Messrs. Aldous, Foley, Frost, Woods, Creaghan, Crawford and Dawson. Circuits and eights: Messrs. Hay, de Goussencourt, Aldous and Frost.



AT THE RUFFY-BAUMANN FLYING SCHOOL, HENDON.—Top row: Messrs. Dobson, R. van Haverbeke, G. Durand. Middle row: Messrs. H. Edgar, Clarence Winchester (Pilot), Edouard Baumann (Pilot), Ami Baumann (Pilot), André Thomsen (Pilot), C. H. Bailey (Capt.). Bottom row: M. Johnstone, Portella, Torres, Maya, and J. Thomas. The above include English, Belgian, French, Anglo-French, Portuguese, Welsh, Swiss, New Zealand.

Instructors: Messrs. W. T. Warren, M. G. Smiles, W. L. Hay and W. T. Warren, jun.

Certificates have been taken by Messrs. W. L. Hay and P. de Goussencourt.

Ruffy-Baumann School.—Pupils with instructor last week: Messrs. Wilson, Straus, Johnson, Westlake, Edgar, Carr and Fanshawe. Straights or rolling alone: Messrs. D'Opstael, Williams, Van Haverbeke, May, Fraser, Durand, Hoskyns and Whittaker. Eights or circuits alone: Messrs. Cox, Muspratt, D'Opstael and May.

Instructors: Messrs. Ed. Baumann, Felix Ruffy, Ami Baumann, André Thomsen and Clarence Winchester.

Ruffy-Baumann Caudron-type tractor biplanes in use.

Certificates taken by Messrs. K. Muspratt and Leslie Cox; both good tickets.

Several passengers carried throughout the holidays and week following.

Bournemouth School.

Pupils rolling last week: Messrs. Adamson, Kennedy, J. L. Barlow, Brandon, Gordinue and Pritt. Straights alone: Messrs. Smith, J. Wilson, O. Wilson, Morley, G. Mouton and Morris. Half-circuits alone: Messrs. Simpson, Dubois, Meeus, Devos and W. Mouton. Eights or circuits alone: Messrs. Dubois, Meeus and Devos.

Instructor: S. Summerfield. 35, 45, and 60 h.p. Caudrons in use.

Certificates taken by Messrs. Dubois, Meeus and Devos.

During the week quite a lot of visitors witnessed many interesting flights given by Mr. Summerfield, who had a busy time in taking up passengers.

The services of E. L. Brynildsen have been secured as assistant instructor.

As the machine which has been under construction will be ready to take the air this week, several pupil vacancies will be open.



A FAIRLY large attendance was attracted by the fine weather to the aerodrome on Saturday last, but unfortunately a strong gusty east wind, varying from 30 to 40 m.p.h., prevented much flying from taking place. It was not until well into the afternoon that an unknown pilot ventured out on a Curtiss tractor biplane. Heading into the wind, it was not long before the machine was up 100 ft. or so, by which time it was hardly making any forward progress at all.

A couple of minutes of this was quite enough for the venturesome pilot, so he decided to land, and, turning, swept back with the wind behind him at quite a different pace, but not without receiving several nasty bumps when over the railway. A little later on C. B. Prodder essayed an attempt, also on a Curtiss, but with a passenger. He experienced similar difficulties, but managed to remain aloft a little longer. After a short interval the 80 h.p.

G.-W. three-seater biplane was brought out, and, accompanied by a mechanic, M. Osipenko, smiling but determined, ascended to try his luck. Although the wind was by now slightly calmer, he also had a rough time of it, and after completing a circuit he descended, dropped his passenger, and had a second try. This time he put up several circuits, and even indulged in a few playful stunts despite the shakings he received from time to time. The wind then began to calm down somewhat, and Osipenko and C. Pashley were able to take up several passengers on the "80" before the close of day.

Sunday was not quite so windy, and there was again a good attendance. The afternoon's proceedings consisted almost entirely of passenger work on the three-seater G.-W. 'bus, the pilots being C. Pashley and B. F. Hale. Some Curtiss machines were also up, executing various interesting manœuvres.

"ERECTING AND ALIGNING 80 H.P. AVRO BIPLANES, TYPE 504."

PROBABLY no other feature in the manufacture and subsequent career of an aeroplane is of such general importance as the proper "tuning up" of the machine. The manufacture of the various component parts is all carried out at properly equipped workshops by men who are specialists in their particular line. It is in the erecting, however, that the qualities of the aeroplane, dormant, as it were, in the component parts, are brought out. Good or indifferent erecting may mean all the difference between a good performance and what is termed colloquially a "dud" one. Moreover, after the initial erecting, subsequent tuning up will frequently have to be effected under anything but favourable conditions, and sometimes even by mechanics who have had little experience in the aligning of this particular type of machine. It is with these conditions in view and in order to help towards solving the difficulties that Messrs. A. V. Roe and Co., Ltd., have produced a booklet under the above title. In this instance the old well-worn phrase about filling a long-felt want might truly be applied, for there can be no doubt, as we of "FLIGHT" have good cause to know from the number of inquiries received, that the want of a book dealing with the subject of "tuning up" has been a very real one, and after a perusal of the Avro booklet we have no hesitation in saying that it will fill that want.

In order to facilitate as much as possible reference to any particular subject, the book has been divided into seven stages, each of these being subdivided into sections describing the adjustment of the machine in front view, side view, and plan. The adjustment in each view is again divided under *Enunciation*, *Method* and

Check. Under "Enunciation" the required adjustment is stated, and under "Method" is explained the ways and means of obtaining this adjustment. Under the heading "Check" suitable measurements are given, whereby the accuracy of the adjustments can be tested. Although this booklet has been specially prepared for Avro biplanes, its usefulness is by no means restricted to this particular machine. The dimensions, it goes without saying, apply only to the Avros, but the general principle followed is equally applicable to almost any other biplane of the tractor type. At the end of the book will be found some very useful tables of general information regarding standard screw threads, combination strengths of cables and turn-buckles, conversion tables, &c., while the last few pages have been left blank for notes. Altogether one of the most practical and useful little books so far published. Messrs. A. V. Roe and Co. intend to supply a number of these books to the Admiralty and War Office for distribution, and they will be glad to send upon application to them at Park Works, Newton Heath, Manchester, a copy to any responsible officer who may be in need of one for purposes in connection with Avro biplanes, and who may be unable to obtain one speedily through official channels.

R.F.C. Officer Escapes from Germany.

ANOTHER officer of the Royal Flying Corps has succeeded in escaping from Germany. This is Second Lieut. H. Ward, who was brought down and captured last November; he arrived safely in London on Easter Sunday, looking none the worse for his adventures.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

War Office, April 25th.
"Egypt.—The pursuing column mentioned in yesterday's report took several more prisoners, and the aeroplanes inflicted severe casualties with bombs and machine-gun fire. One of our mounted brigades was engaged all day with the enemy.

"On April 24th eight aeroplanes took part in an attack on the enemy camp near Quatia, and succeeded in effecting a complete surprise. The hostile camp was completely destroyed, and the enemy suffered severe casualties from the bombs dropped and from machine-gun fire. There was no further fighting on the 24th, and the enemy appeared to be withdrawing from the Quatia district."

War Office, April 26th.

"*Egypt.*—The Katia Oasis, except for a force of 1,000 men, who are still established at Bir-el-Abd (14 miles east of Katia), is now clear of the enemy. The Turks have paid dearly for this raid, as their losses, particularly at Dueidar and as a result of the aeroplane attack, have been very heavy.

"On Tuesday hostile aeroplanes dropped bombs on Port Said. No damage or casualties have been reported. Early on the same morning eight of our aeroplanes made a bombing attack on the Turkish force at Bir-el-Abd. All the machines returned safely. Later on an attack by British aeroplanes was made on Bir-el-Bayud, 8 miles south of Bir-el-Abd. The enemy were fired on with bombs and machine guns from a height of 400 ft. with very successful results."

General Headquarters, April 26th.

"Hostile aircraft were less active yesterday. This morning a hostile aeroplane was brought down in our lines as the result of a fight in the air. Both pilot and observer were killed.

"At 12.30 a.m. a hostile airship dropped bombs near the coast behind our lines, doing no damage."

General Headquarters, April 27th.

"Yesterday there was much aerial activity. Nineteen combats in the air. The machine reported yesterday as having been brought down in our lines was a two-seater. It was attacked by a single-seater three times at a great height. The enemy pilot was shot through the heart and the observer through the body. The machine crashed to earth with the engine full on from a height of 14,000 feet.

"One of our reconnaissances was attacked by eight hostile aeroplanes. All hostile attacks were driven off, and one hostile machine brought down. Our reconnaissance was completed. Two of our aeroplanes were damaged, but all returned safely."

General Headquarters, April 28th.

"In the air there was considerable activity again, twenty-four combats taking place. Four of our machines attacked eight hostile machines flying in formation, and drove a wedge into the middle of them.

"After a fight lasting ten minutes four of the enemy machines were driven down, one landing in a ploughed field. One of our machines was hit, but we suffered no casualties. In another fight a hostile machine is believed to have been hit."

War Office, April 28th.

"*Mesopotamia.*—An attempt, made on the night of April 24th, to send a ship with supplies to the Anglo Indian force shut up at Kut, though carried out with the utmost gallantry, has, unfortunately, failed. Our aeroplanes have discovered that the ship is aground near Magasis, about four miles east of Kut."

General Headquarters, April 29th.

"Yesterday the fine weather enabled much successful air work to be done. There was a marked decrease in the number of hostile machines seen yesterday, and only four combats in the air took place. No loss on our side. To-day two German aeroplanes were brought down behind our lines."

War Office, May 1st.

"*Egypt, Western Desert.*—The presence of British and Egyptian troops in Khorga enables reconnaissances to be carried out in all directions, and the Royal Flying Corps makes continual flights to Bakhla, inflicting considerable damage on each occasion with bombs and machine-guns.

"No movement of the enemy from this oasis can hope to escape undetected."

General Headquarters, May 1st.

"Yesterday there were seven combats in the air, in the course of which one hostile machine was driven down in the German lines and a second, while being pursued, got out of control and fell on the roofs of Bapaume."

French.

Paris, April 26th. Afternoon.

"At about 3 a.m. to-day one of our gunplanes, having been attacked by a Zeppelin off Zeebrugge at a height of 13,000 ft., fired at the airship 19 incendiary shells. The Zeppelin appeared to have been hit. At the same time another gunplane fired several shells at a German torpedo-boat, which it hit.

"A French pilot this morning brought down a Fokker, which fell in our lines near Hoeville (north of Lunéville). The enemy airman was wounded and captured."

Paris, April 26th. Evening.

"Losing its way, an Aviatik last night landed in our lines at Rosières (Oise), the two officers in it being made prisoners. Another enemy machine was hit by our special guns and fell in flames at Bagatelle-Pavillon (north of the Four de Paris).

"The German aeroplane destroyed by our artillery in the German lines last night was brought down by Lieutenant Navarre, this being his ninth victim.

"On Tuesday night our aviators were particularly busy around Verdun. Fourteen heavy bombs were dropped on parks and bivouacs at Etain, four at Danvillers, six at Briellules Station, fifteen on Conflans station, six on Pierrepont Station, six on the steel works at Gouff-Homecourt, ten on Mezières Station, and two on Rethel.

"The same night great aerial activity was shown around Roye. Eight bombs were dropped on a munition works at Viller-Carbonnel, violent explosions showing they hit their mark; 12 bombs on the Biaches Bridge, and 38 on the works at Gremery and Grumy (north of Roye).

"A German airship on Wednesday night dropped twelve bombs in the region of Etaples, Bentin, and Paris-Plage; two English soldiers were slightly injured and little material damage was done."

Paris, April 27th. Afternoon.

"One of our pilots brought down an enemy aeroplane, which fell at Vrille, in the Forest of Spincourt."

Paris, April 27th. Evening.

"During the daytime yesterday an enemy aeroplane brought down by the fire of our motor guns fell in front of the fort of Vaux.

"During the night of April 26th-27th three of our airships carried out bombardment operations. Numerous heavy projectiles were dropped by them on the stations of Etain and Bendorf and on the Arncliffe Railway. The same night our aeroplanes dropped 37 bombs of 120 mm. on different stations in the valley of the Aire, 25 bombs of 120 mm. on bivouacs in the valley of the Orne, six bombs of 120 mm. and two incendiary bombs on the station of Thionville, and eight bombs of 120 mm. on the station of Conflans."

Paris, April 28th. Afternoon.

"During the day yesterday our aircraft fought a number of aerial battles. An enemy aeroplane was brought down in the region of Fromezey. Two other enemy machines, attacked by ours, were brought down seriously hit, one near Douaumont and the other in the Bois de Montfaucon.

"Finally, in the region of Nesles-Chaulnes, a 'Fokker,' fired on by machine-guns from a 'Nieuport,' fell headlong in the German lines.

"During the day of the 27th inst. one of our attacking squadrons dropped eighteen shells on the railway station of Lamarche, in the Woëvre."

Paris, April 28th. Evening.

"During the night of April 27th-28th our aeroplanes bombarded the station of Audun-le-Romans hutments, near Spincourt, and the stations of Grandpre and Challeranges."

Paris, April 29th. Evening.

"During the night of April 28th-29th one of our air squadrons bombarded a factory in full operation at Hayange (annexed Lorraine), and bivouacs to the east of Azannes. This operation, which was carried out in spite of a very violent wind, constitutes the hundredth bombardment effected by the same squadron."

Paris, April 30th. Afternoon.

"An Aviatik was forced to come down in the valley of the Biesne (Argonne), after an engagement with our chaser-planes. The enemy machine is undamaged, and the two officers who occupied it were taken prisoners."

Paris, April 30th. Evening.

"One of our aircraft attacked two Fokkers over the German lines in the region of Roye. One of the two machines was shot down by machine-gun fire from a height of 1,500 metres, and was smashed to pieces. The other was obliged to land.

"Two other Fokkers were brought down by our fighting aircraft, one near Eparges, the other south of Douaumont. Five enemy aircraft dropped bombs on the region south of Verdun. Our

chasing aeroplanes were sent in pursuit. Two of the enemy machines were brought down by them, and a third was brought down by our special anti-aircraft guns."

Paris, May 1st. Afternoon.

"On the night of April 29th-30th our attacking squadrons dropped a number of projectiles on the revictualling and munitions depot of Sébastopol, south of Thiaucourt, on the Etain railway line, on bivouacs near Spincourt, and on the railway stations of Apremont, Grandpré, Challerange and Vouzières.

"A number of explosions are reported to have occurred on the railway lines, and several fires broke out in the course of these operations."

Paris, May 1st. Evening.

"During the month of April our fighting aircraft, which was very active, particularly in the region of Verdun, obtained important results in numerous aerial combats, in which they undoubtedly had the advantage.

"Our pilots succeeded in bringing down 31 enemy aircraft. Nine of these fell in our lines, and 22 were seen by our observers falling in flames or completely smashed up in the German lines.

"During the same period six French aeroplanes were worsted in fights and fell in the enemy lines."

Russian.

Petrograd, April 26th.

"Enemy aeroplanes dropped bombs near Dvinsk and on the town itself. The enemy bombed various sectors of the Dvinsk positions and the region west of Postavy. South of Krevo the Germans attempted an offensive, but without success. In the same region a number of German aeroplanes flew over our lines. One of them was hit and fell in our lines south-east of Krevo.

"Enemy aeroplanes dropped bombs on the railway station of Gantzevitchi, between the stations of Baranovics and Lunietz."

Petrograd, April 27th.

"Enemy aeroplanes flew over our Dvina lines at many points and dropped bombs. Seven enemy aeroplanes yesterday flew over the Dvinsk region. One of them bore the distinctive marks of a Russian aeroplane.

"Our Ilya-Mouromets giant aeroplane bombarded the railway station of Dowdzevas (on the Mitau-Kreuzburg Railway) south-east of Friedrichstadt. Thirteen bombs, each weighing 40 lbs., were dropped, besides seven others filled with splinters. These bombs started a fire at the railway station of Ujvertynie.

"Enemy aeroplanes at several points flew over the cantonments of General Evert's troops and dropped bombs."

Petrograd, April 29th.

"Yesterday, shortly before two o'clock in the morning, a dirigible appeared over Riejitz, where it dropped explosive and incendiary bombs.

"One of our submarines, which was bombarded by enemy aircraft and batteries without success, sank a steamer and a sailing ship."

Italian.

Rome, April 30th.

"Between the Giudicaria and Sugana valleys artillery activity and aerial reconnaissances took place.

"Enemy aeroplanes aiming at Verona were repulsed by our anti-aircraft artillery and aeroplanes, the latter of which gave chase.

"Enemy aeroplanes shelled the villages on the Lower Isanzo. There were some casualties, besides slight material damage."

Rome, May 1st.

"Last night one of our airships, despite heavy clouds and stormy weather, reached the Lagarina Valley, where it bombarded the railway from Calliano to Trento, and the railway station at Trento. The permanent way and the station were damaged, and fires broke

out. The airship returned safely, although it was subjected to heavy artillery fire, helped by searchlights."

German.

Berlin, April 26th.

"One of our flying squadrons dropped a large number of bombs on the French flying ground of Brocourt (east of Clermont) and heavily shelled the village of Jubecourt. Two enemy aeroplanes were shot down in an aerial fight above Fleury (south of Douaumont) and west thereof.

"A German aerial squadron freely dropped bombs on the flying ground at Dvinsk.

"Aeroplanes of our naval air detachment early on Tuesday morning effectively pelted the harbour works, fortifications, and aerodrome of Dunkirk with bombs. All returned undamaged."

Berlin, April 28th.

"Three German aeroplanes yesterday dropped thirty-one bombs on the Russian warship Slava in the Gulf of Riga, making several hits. A fire was clearly observed. Despite a very violent bombardment all the aeroplanes returned undamaged."

"Three enemy aeroplanes came down after battles in the air west of the Meuse, one over Bethelamville and a second near Very, the third machine being brought down by an anti-aircraft gun near Frapelle, east of Saint Die. A German squadron dropped numerous bombs on the barracks and railway station at Saint Menehould."

Berlin, April 29th.

"Our anti-aircraft guns brought down a French biplane south of Morquvilliers in Champagne; the occupants were dead. First Lieutenant Boelcke shot down south of Vaux his fifteenth enemy aeroplane.

"Our airships attacked the railway precincts near Wenden and on the line from Dvinsk to Rzezytsa."

Berlin, April 30th.

"A German airman in a fight against three enemy machines over Verdun and Belleray shot down one of them."

Berlin, May 1st.

"Our aeroplane squadrons freely bombarded enemy shelters to the west and warehouses to the south of Verdun.

"A French biplane was shot down during an aerial battle near Noyon. The occupants were killed."

Austrian.

Vienna, April 30th.

"Our aviators dropped bombs on the enemy's barracks and camp near Villa Vicentina. After a successful air fight all the machines returned safely.

"Near Daniele del Friuli an Austrian aviator fought four Italians and compelled one of them to descend precipitately."

Turkish.

Constantinople, April 28th.

"On April 20th a Turkish aviator made a 300 kilometre raid through the desert to El Kantara on the Suez Canal, and bombed the enemy's barracks. He returned unharmed."

Constantinople, April 29th.

"On Tuesday morning, in order to revenge the defeat which he had suffered, the enemy attacked Katia with a squadron of nine aeroplanes. Our aeroplanes thereupon attacked an enemy steamer at Port Said and military buildings, and successfully dropped bombs on an enemy war vessel off El Arish and all the enemy camps between Port Said and El Kantara. Our machines returned safely."

Constantinople, April 30th.

"A torpedo boat and two hostile aviators on the evening of April 13th attempted to approach Seddel Bahr, but were put to flight by our artillery fire. On April 12th and 13th, enemy vessels repeatedly appeared off Smyrna and directed their fire alternately against the Kucheda and Tchesme coasts. They then withdrew, their fire being unsuccessful. Two hostile aviators flew over Smyrna and dropped bombs without effect."

From Other Sources.

A TELEGRAM from Malmö to *Politiken*, dated April 25th, says:—

"Ten German battle seaplanes have been cruising over the Cattegat during the last few days, evidently reconnoitring. Yesterday two machines descended just outside Helsingborg and floated about until a Swedish torpedo-boat appeared, when they hastily made off southward."

The *Times* correspondent at Salonica, writing on April 25th, says:

"Yesterday German aeroplanes threw some bombs on the Anglo-French camps, but were driven off before they could cause any damage.

"Last night a French air flotilla again attacked the enemy camps at Doiran and Ghevgegi and threw many bombs.

"To-day a French aeroplane intercepted an Albatros at Ostrovo as it was approaching Salonica from Monastir, and brought it down. This is the third enemy machine bagged by the same pair of airmen."

The *Ribe Stiftstidende* publishes a report that British aviators

attacked the German fortifications on the Island of Sylt on the night of Easter Sunday. It is also reported that a German aeroplane was brought to Tondern (Schleswig) completely demolished on Easter Monday morning. Since the British attack of March 25th the Germans have been exceedingly active round Tondern. The garrison has been considerably strengthened there and at Sylt, and anti-aircraft guns, artillery and wireless have been set up at Skaerbek, Ballum and Tondern.

A Reuter message from Athens on April 26th says:—

"Diplomatic advices state that two Russian seaplanes have bombarded the powder factory at Zeitun Burun, in Eastern Rumelia. It is not known whether any damage was done.

"According to advices from Sofia, the French aeroplane which flew over the Bulgarian capital last Friday dropped bombs which destroyed a house and damaged a school in the Poduyene quarter, near the artillery barracks. Proclamations were dropped announcing the Turkish defeats."

The Athens correspondent of the *Messaggero* telegraphs that on April 24th a powder factory at Zeitunlik, in the vicinity of Constantinople, was hit by a dozen bombs thrown from two Russian aeroplanes. The fire spread to the neighbouring buildings.

Mr. W. T. Massey, writing to the *Daily Telegraph* from Suez on April 27th, says:—

"The Flying Corps yesterday saw a hostile camp at Hod Bayud, a small oasis with palms in a depression of soft sand dunes half-dozen miles south of Abd. It was destroyed by the aircraft, and the scattered enemy retired on Abd, where they were bombed by the aviators.

"Bombs have been dropped on Port Said by enemy aeroplanes. Flying at a great height a Turkish aviator yesterday dropped four bombs. There were no casualties, and no damage was done."

The same correspondent, writing from El Kantara on April 26th, regarding the fighting at Katia, &c., says:—

"The Australian Light Horse pursued, killing a few and taking some prisoners. Further losses were caused by the bombs and machine guns of the airmen.

"When the enemy's main body retired a force of 500 was left near Katia as a rearguard. Eight aeroplanes attacked their bivouac early on Monday morning, dropping 71 bombs on the encampment, and absolutely destroyed it. The Turks were taken completely by surprise, and lost half their number killed and wounded."

According to a report in the *Times* in an air duel over Mulhausen on March 17th, the petrol tank of a French biplane was hit, and the machine caught fire. The French airman, seeing that he could not escape alive, promptly drove his burning machine against that of his German adversary, and both fell in flames. The bodies of the airmen were entirely carbonised.

A semi-official review of events before Verdun, issued in Paris on April 28th, says:—

"Three times the enemy infantry attempted to rush our trenches to the north of the fort of Vaux, on the front Haudremont-Thiaumont, and in the Douaumont-Vaux sector, but the attempts were discovered by our aviators, and were broken up by our curtain fire before the attacks had even time to debouch.

"The fine weather is very favourable for aeroplanes and dirigibles, which have accomplished many military objects in the last twenty-four hours. The number of bombardments must have been so great as to constitute a record."

According to the *Telegraaf* on the 24th ult., at 4 a.m. aeroplanes appeared over Zeebrugge and dropped bombs. The Germans fired violently at them without apparent effect.

Writing to the *Daily Mail* from Rotterdam on April 25th regarding the bombardment of Zeebrugge by a British squadron, Mr. James Dunn says:—

"A captive balloon directed the fire of the German guns and was not hit, although it was hotly shelled."

Mr. W. T. Massey, writing to the *Daily Telegraph* from Suez on April 24th, says:—

"Yesterday and to-day a substantial force of Turks was badly mauled in the Quatia district by infantry and the Australian Light Horse, while the Royal Flying Corps, which has done consistently admirable work throughout the campaign, finished the fight with a brilliant raid, scattering the remnant of the Turks across the desert. . . . The Turks' discomfiture did not end here, for aeroplanes went after the retreating enemy, dropped bombs among them, and used machine-guns with good effect.

"A report was sent in that 400 Turks were bivouacking in the neighbourhood of Quatia last night, and this morning the Flying Corps made an attack. Starting in the darkness, the aeroplanes reached Quatia as the sun was rising, and dropped a large number of bombs, completely dispersing the enemy with bombs and machine-guns. The enemy's casualties were observed to be heavy."

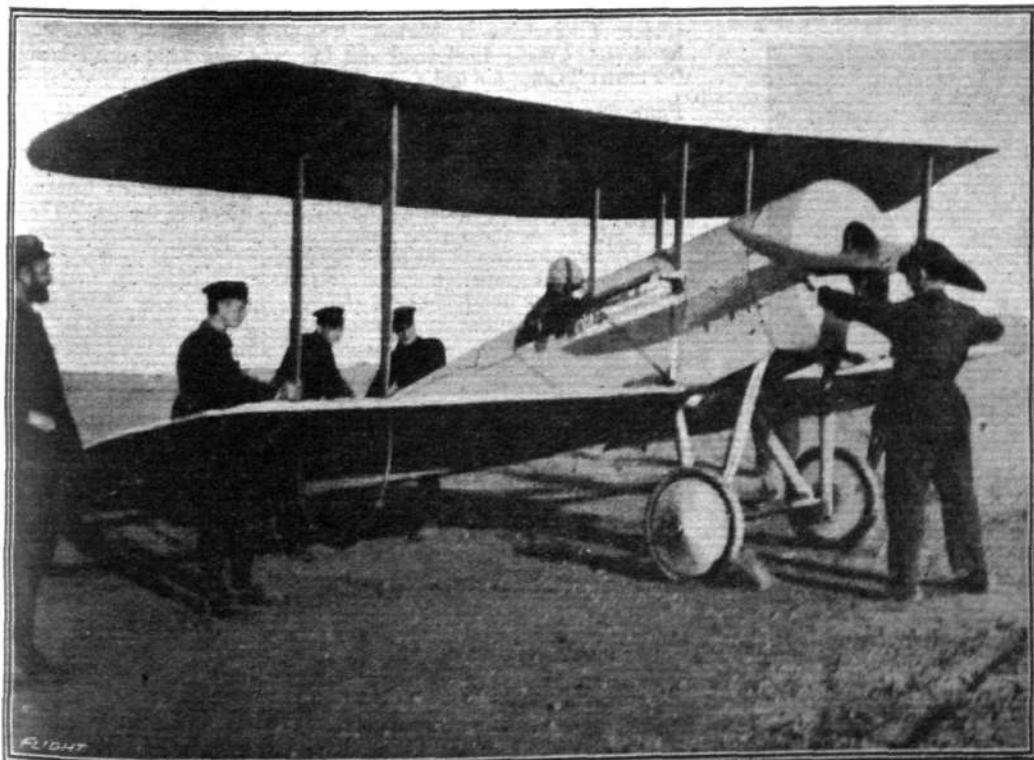
In an account of the sinking of the Dutch steamer "Berkelstroom," obtained by the London correspondent of the *Telegraaf*, the following occurs:—

"The unmarked submarine had fired four shells at the 'Berkelstroom' without succeeding in sinking the vessel when a seaplane appeared in the distance. This was noticed by the Germans in the U.B. 18, and one of the crew of the submarine tried to cut the rope by which the rowing boats were attached to her. Sufficient time was not allowed him to accomplish his purpose, however, for the submarine was rapidly being submerged, and the 'Berkelstroom's' boats would have been dragged down had not the ship's carpenter, who was in the foremost of them, been able to sever the rope.

"When the seaplane came nearer two or three shots were fired from it at the U.B. 18. The Dutchmen were unable to see whether the submarine was hit. Both submarines having disappeared the seaplane descended. It was manned by two English airmen, who gave the Dutchmen certain instructions and promised to obtain help for them. No sooner had the seaplane ascended and got out of sight than the unmarked submarine boat came again to the surface and fired five or six more shells at the 'Berkelstroom,' from which smoke was seen to arise. The second submarine then disappeared."

An account received in Amsterdam from Constantinople regarding the fall of Kut says:—

"The British tried all possible means to supply food to the beleaguered force. They first threw down sacks of flour from aeroplanes, but Turkish forces put an end to this, Turkish battle aeroplanes shooting down one after another of these old British machines."



A Bristol "bullet" getting away—somewhere out yonder.

QUESTIONS IN PARLIAMENT.

"X" Raids.

REPLYING to a question put in the House of Commons by Mr. Butcher on the 27th ult., Mr. Tennant said:—

"On the night of April 24-25th, a raid was attempted which resulted in one casualty, but was otherwise abortive.

"On the night of April 25th-26th at least three airships are believed to have crossed the coast. They went to an east coast port and in the direction of London, and were beaten off by gun-fire in each case. Very little damage was done to property, and there were no casualties.

"Another endeavour was made last night on the coast of Kent, but it was beaten off by gun-fire."

Manchester and Air Raids.

MR. TENNANT, in reply to a question put in the House of Commons on April 27th by one of the Manchester members, Sir J. Randles, said he had been able to assure the Lord Mayor and citizens of Manchester that adequate arrangements were being made for the defence of that city against hostile aircraft.

THE BRITISH AIRMAN.

(Copyright.)

ALOFT ten thousand feet he flies
And braves the dangers of the skies.
O'er yonder cloud a Hun he spies—
And gives full chase to him.

Fast speeds the Fokker; faster still
Leaps o'er dale and over the hill
The craft with pilot out to kill
Or tear from limb to limb.

When ev'ning's sun has gone to rest,
And flying men have flown their best,
Shall chanted be near Gotha's crest
A mournful dirge and hymn.

CLARENCE WINCHESTER.

Hawker's New Record.

PILOTING one of the Sopwith fighting machines fitted with a Clerget engine, Mr. H. G. Hawker on the 27th ult., at Brooklands, rose to an altitude of 7,200 metres (23,622 feet), as shown by the barograph. This, of course, easily beats his own British record of 18,393 feet. The German flyer Oelerich claims to have reached 8,150 metres, while the French record stands to the credit of Audemars with 22,171 feet.



Greater Philadelphia Panel of Aviation presented by Dr. Thos. E. Eldridge and Dr. George H. Simmerman for the best altitude record for two years made in an aeroplane or hydro-aeroplane within 100 miles of Philadelphia.

Rescue of Flight Sub-Lieutenant Beare.

FLIGHT SUB-LIEUTENANT BEARE, R.N., who was reported missing after attacking a Zeppelin last week, is to be congratulated on his escape. He was picked up by a Dutch fishing lugger and taken, with his machine, into Scheveningen after being thirty hours in the sea, having had to descend owing to his fuel supply giving out. The Dutch Government decided to release Sub-Lieutenant Beare, as he was picked up shipwrecked outside territorial waters, but his machine will be detained until the end of the war.

Extra Pay for R.N.A.S. Observers.

AN Order in Council published in the *London Gazette* of the 28th ult. makes provision for extra pay to officers and men, whether belonging to the R.N.A.S. or not, who may be employed by the Admiralty as observers. Trained observers, commissioned officers and midshipmen when actually detailed as observers are to receive 5s. a day continuously; warrant officers, 3s. a day for days of ascent only; petty officers and men, 2s. a day for days of ascent only. These rates are to be issued continuously to warrant officers, petty officers, and men employed as observers in an area of operations.

Officers, warrant officers, petty officers, and men not graded in the Royal Naval Air Service when required to ascend on duty as casual observers or passengers will receive pay on this scale for each day of ascent.

Officers, warrant officers, petty officers and men under training as observers will be entitled as extra pay: commissioned officers and midshipmen to 3s. a day; warrant officers to 2s. a day; petty officers and men to 1s. a day, all for days of ascent only.

Graded officers, warrant officers, petty officers and men are eligible for these rates of extra pay unless entitled to flying pay.

The Air Screw.

ALTHOUGH there seems to be no end to the number of books published regarding the aeroplane generally, there is a dearth of literature on the subject of air screws. All the more welcome, therefore, is the book which Mr. M. A. S. Riach has written, in which the theory and design of air screws are dealt with in as simple a manner as is possible with such a subject. Here and there, as in Chapter II., on the subject of the forces acting on an air screw blade, the book may look a little terrifying to the novice, but if the author is carefully studied step by step anyone with even a moderate knowledge of mathematics should be able to follow him. There are chapters devoted to pitch, blade shape and efficiency, blade sections, stresses, static thrust, different speeds of translation, aspect ratio, effect of indraught, &c. One section which will be of particular interest to the practical man is that which explains the method of "laying out" the propeller, a procedure which is more than usually mystifying to many. Written by one who has had a long and extensive experience in the designing of aeroplanes, the book should find a place on the book-shelves of every serious student of the science of aviation. The book is published at 10s. 6d. by Messrs. Crosby Lockwood and Co., and can be obtained from "FLIGHT" Office for 10s. 11d. post free.

Four Fatal Accidents.

Two fatal accidents were the subject of inquests at Haslar on the 25th ult. One was relative to the death of Flight Sub-Lieut. A. C. Saw, R.N., whose machine, while flying towards Cowes, apparently side-slipped during the turn and dived to the sea. The pilot was below the surface of the water, but the machine was quickly turned over and the pilot lifted out. He was then unconscious and died soon after arrival at Haslar Hospital, the surgeon attributing death to a fracture at the base of the skull. Evidence was given showing that the machine was in good order and that the pilot had had a good deal of experience although it was his first flight in this particular machine. A verdict of "Accidental Death" was returned.

In the other case medical evidence showed that Lieut. W. C. Pemberton, of the R.F.C., died at Haslar Hospital from shock following extensive burns and a fractured thigh. A verdict of "Accidental Death" was returned.

Second Lieut. A. Boag, London Regiment, attached R.F.C., was killed in an accident near Dorney Common, Bucks, on the 29th ult. It is thought that something went wrong with the engine, and the machine diving to the ground, the pilot either was thrown out or tried to jump out and received injuries from which he expired shortly afterwards.

While flying near Ponder's End on Sunday morning Probationary Flight Sub-Lieut. T. R. Liddle lost his life. At the inquest it was stated that the machine after flying normally for some time, made a left-hand turn, side-slipped and turned upside down. The pilot endeavoured to right the machine, but it dived vertically on to the railway line. The jury returned a verdict of "Death by misadventure."

Models

ALL communications in connection with this section should be addressed to the Model Editor, "FLIGHT," 44, St. Martin's Lane, London, W.C. Correspondents are requested to write on one side of the paper only.

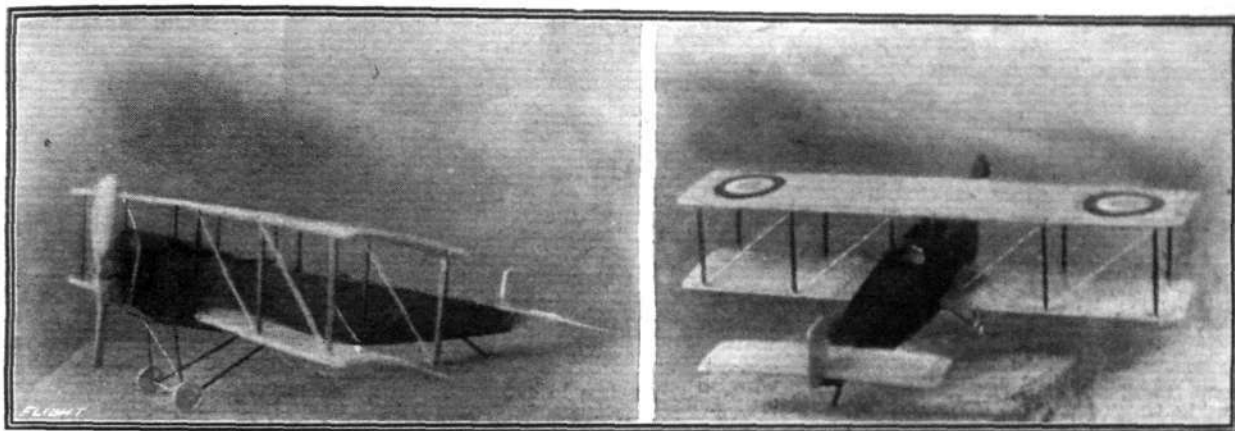
A Curtiss Model.

THE Curtiss model seen in the two photos. was made by Master C. E. Finn, of Ashford, with the aid of the scale drawings in "FLIGHT." He writes that, with the exception of the wheels, he made everything himself, using the simplest stuff. The body is made of three-ply wood, the planes of lathes covered with linen, painted and varnished,

in "FLIGHT" for April 20th, writes to point out that he made a mistake in the dimensions. The length should read 3 ft. 11 ins., and the span 5 ft. 9 ins.

Messrs. A. E. Jones, Ltd.

In the little notice which was published in a recent issue regarding the change of name of the firm which has been known as



Two views of a Curtiss model by Master C. E. Finn.

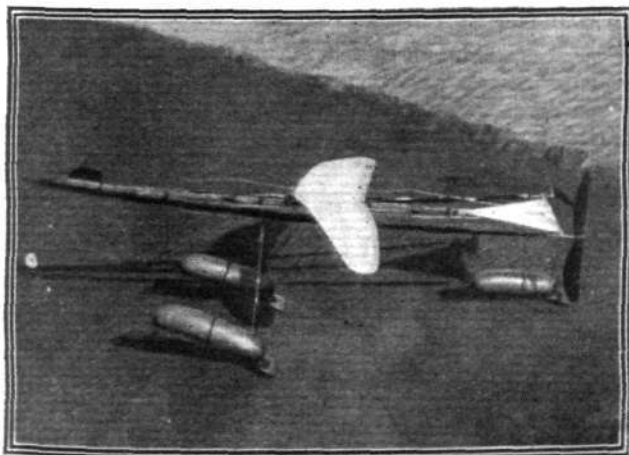
the struts are let through the planes by eyelets, and fixed by small brass-headed nails, the propeller is also home made, and is fitted on to the spindle with washers and nuts each side and driven by elastic. Although the model is much too heavy to give long flights, we hope Master Finn will be encouraged to go on with his hobby, as he is evidently a painstaking worker.

A Waterplane Model.

In sending along the accompanying photograph of one of his first waterplanes flown at meetings of his club in April, 1912, Mr. Jas. C. Balden, Hon. Secretary of the Scottish Aeronautical Society Model Aero Club, gives the following details:—

"The best duration was 15 secs., which at that time was considered quite good.

"Length, 36 ins.; span, 24 ins. by 5 ins.; propellers, 9 ins., bent wood; front floats, 8 ins. by 1½ ins. (¼ in. clear rubber tubing



A waterplane model by Jas. C. Balden, the Hon. Secretary of the Scottish Aeronautical Society Model Aero Club.

blown up); rear float, 7 ins. by 1½ ins. (note float planes extending behind tubing).

"The model always rose on to these float planes in about its own length, simply skimming along until reaching its flying speed."

A B.E. Model.

Mr. H. E. Taylor, a photo. of whose B.E. model was illustrated

J. Bonn and Co. it was stated that the business had been under the sole control of Mr. A. E. Jones for the past two or three years. This was meant purely figuratively, but even so it did Mr. Jones an injustice, for, as a matter of fact, he has been in sole control for at least as long as "FLIGHT" is old, and we are in our eighth year. Those who have a complete set of the volumes of "FLIGHT" will doubtless be interested if they turn back to Vol. I and look at the illustrations of some beautiful models made by Mr. A. P. Burgoyne, the fittings of which were supplied by Messrs. Bonn and Co. Those who have had dealings with the firm will not need to be told of the high quality of material and workmanship which is a characteristic of their work, and newcomers can be safely recommended to give Messrs. A. E. Jones, Ltd., 97, New Oxford Street, W., a trial.

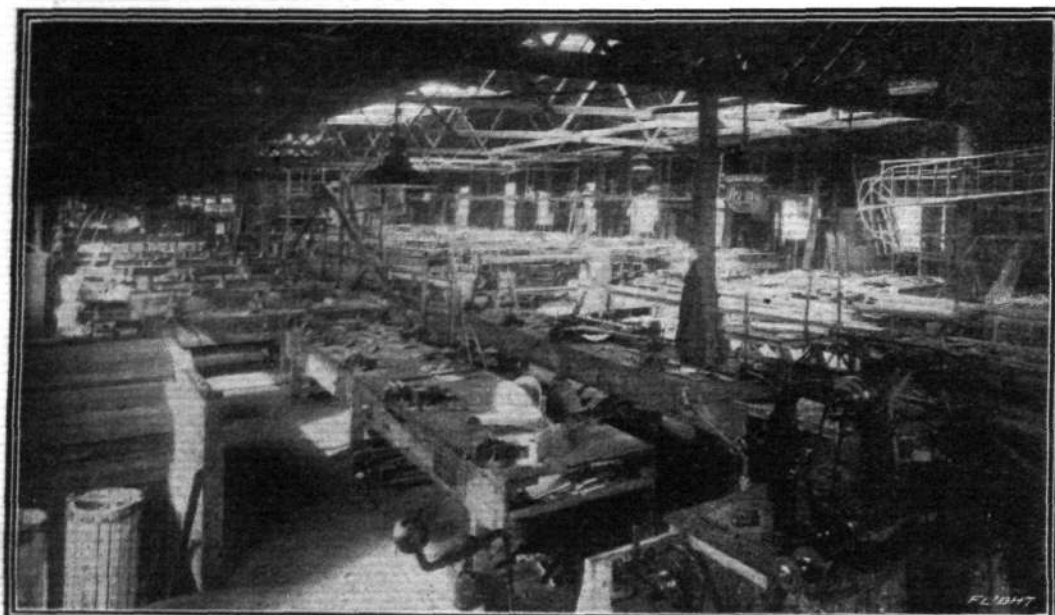


UNAFFILIATED MODEL CLUBS DIARY AND REPORTS.

Club reports of chief work done are published monthly. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Finsbury Park & District (66, SOUTH VIEW ROAD, HORNSEY, N.).

Monthly Report.—The past month has been a very busy one, and many new machines have made their appearance. On April 1st a biplane of Avro type was flown by Mr. A. Richards. Many long flights were made, and the stability was very good. Mr. F. E. Rayner was flying a mono., which was remarkably fast, while Messrs. B. H. Barnard and W. Hardinge were flying Morane-type monos. A very light monoplane was being flown by Mr. E. Coleman. April 8th was a good flying day, but, unfortunately, only three machines put in an appearance, the most interesting of which was a small biplane by E. Coleman. This flew very well, and possessed extraordinary climbing powers. A somewhat novel machine was "piloted" by Mr. A. Richards. This was a twin-pusher-tail-behind type after the style of the Mann biplane. Another machine of this type was constructed by Mr. Coleman, and made its debut on the 21st (Good Friday). The morning was excellent for flying, and several members "turned up" with machines. Tractor monoplanes were again being flown by Messrs. Richards, Hardinge, Rayner, and Coleman; the last-named also had his biplane out. A Morane monoplane belonging to the late secretary was being flown by his brother, S. C. Barnard. Saturday, the 22nd, was not at all favourable, but despite this the light-weight monoplanes of Messrs. A. Richards and Coleman did very well. On nearly all occasions they climbed to a great height, afterwards vol planing to terra firma with propeller stationary. A large and somewhat heavy machine was being tested by Mr. Rayner, but no very prolonged flights were made. On Monday (Bank Holiday) this machine flew very well, as several adjustments had been made during the week-end, which made it lighter. Messrs. Richards and Coleman were again flying their tractors successfully. Mr. H. Mullins flew a Morane tractor. Mr. B. H. Barnard has now been called up for military service, and has joined the King's Royal Rifles. In him the club has lost a highly-esteemed member, and in his capacity as secretary since May, 1914, he has done splendid work. It is through his perseverance and untiring efforts that the club has kept together during these strenuous times, and it is sincerely hoped that the enthusiasm of the remaining members will not fail now. Mr. Rayner was unanimously elected to fill his place.



A scene which spells remarkable progress at the Whitehead factory, the photograph showing a portion of the "Old Works."

ONE of the most important problems relating to the construction of aircraft is the supply of metal fittings. When it is considered that one aeroplane alone possesses several hundred fittings of various kinds, it can readily be realised that when it comes to constructing aeroplanes in large numbers the demands are heavy. For this reason the manufacture of metal fittings and parts has become one of the most important branches of the industry, and although several firms specialising in this work have come into being during the war, it is as much as they can do to cope with the ever-growing requirements of the aeroplane builders. A recent recruit in this branch is the British Aircraft Manufacturing Co., of Imperial Works, Belfast Road, Stamford Hill, London, N., and although the works are comparatively small the output of fittings and parts is quite large in proportion, and, what is most important, the firm claims to be able to give prompt delivery. We understand from the Manager, Mr. Posner, that arrangements for considerably enlarging the works are in contemplation. As the shops are at present there is still room for the installation of additional machinery without necessitating any alteration, whilst there are also present facilities for extending them. As regards the workmanship of the fittings turned out by this firm, we can only say that what we saw during a recent visit was well up to the highest standard; we believe that Government inspectors have expressed their satisfaction with the work coming from the British Aircraft Manufacturing Co.

French Flyers Over Switzerland.

AN official note issued in Paris states that on the morning of the 27th ult. a French biplane, owing to the wind, was carried a few hundred yards over Swiss territory near Beurnevészin. Warned by rifle fire by the Swiss troops, the aviator made a half turn and was able to steer clear. At midday another aviator, warned in time by Swiss fire, turned before reaching the frontier. The officer observer of the first biplane has been subjected to military discipline.

Germany and Swiss Neutrality.

FROM Berne it is reported that the German Government has sent confidentially to the Federal Council what are considered completely satisfactory communications on the question of the delimitation along the Swiss frontier of the neutral zone over which aviators are forbidden to fly. At an extraordinary meeting of the Federal Council on April 29th these communications were discussed, and the affair is now considered as settled.

Sweden Taking Precautions.

As German seaplanes and airships on their reconnoitring excursions to the north have lately made a practice of taking a short cut over Swedish territorial waters, the Swedish Government (according to the *Dagens Nyheter*) has decided to introduce a Bill prohibiting the passage of any foreign aeroplane or airship over such waters.

PUBLICATION RECEIVED.

Erecting and Aligning 80 h.p. Biplanes, Type 504. Manchester :
A. V. Roe and Co., Ltd., Newton Heath.

Darracq Motor Engineering Co., Ltd.

WE are informed that Messrs. A. Darracq and Co. (1905), Ltd., have formed the above company (in which they are solely interested) for the purpose of carrying on the business hitherto conducted at the Townmead Works, Fulham, S.W. All communications for the future should therefore be so addressed.

The Fairby Construction Co., Ltd.

MAJOR W. H. ALLEN, R.G.A., of Evenley Hall, Brackley, Northants, has joined the Board of the Fairby Construction Co., Ltd.

NEW COMPANIES REGISTERED.

Aircraft, Propeller, and Engineering Co., Ltd.—Capital £1,000, in £1 shares. Acquiring business of the Aircraft Engineering Co. First directors, W. M. Hampton and C. Jefferies.

London and Kingston Boat and Motor Works, Ltd.—
Capital £20,000, in £1 shares. Aeronautical, electrical, motor,
and general engineers. Minimum cash subscription £100. First
directors, G. St. L. Mowbray and J. G. Bickford.

Aeronautical Patents Published.

Applied for in 1915.

Published May 4th, 1916.

568. VICKERS, LTD., and T. S. DUNCAN. Landing-devices for aeroplanes and hydro-aeroplanes.
5,494. E. B. TEMPLE. Speedometer for aircraft.
7,686. C. A. CHRISTIANSON. Aeroplanes, &c.
15,511. W. K. DALZELL. Multi-cylinder rotary I.C. engines for aeroplanes.

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week.

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